

**ROLE OF AGRO-BASED INDUSTRIES IN THE
DEVELOPMENT OF THE ECONOMY OF DISTRICT JALAUN**
(A STUDY OF POST LIBERALISATION PERIOD FROM 1991 TO 2001)



**A THESIS SUBMITTED
TO THE
BUNDELKHAND UNIVERSITY, JHANSI
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OF
DOCTOR OF PHILOSOPHY
IN
ECONOMICS**



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DECLARATION

I hereby declare that the thesis entitled “**Role of Agro-Based Industries In the Development of The Economy of District Jalaun, A Study of Post Liberalisation Period From 1991-2001**” being submitted to Bundelkhand University, Jhansi for the Degree of Doctor of Philosophy in Economics is an original piece of research work done by me and to the best of my knowledge and belief the thesis or any part of the thesis has not been published in any other University or Examination Body in India or abroad earlier.

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Certified that the thesis titled “ **Role of Agro-Based Industries In the Development of The Economy of District Jalaun, A Study of Post Liberalisation Period From 1991-2001**” submitted by **Mr. ASHISH KUMAR AGRAWAL**, in fulfilment of the entire requirements for the Ph.D. Degree of Bundelkhand University, Jhansi, embodies the record of his own investigation and labour, carried out under my supervision and guidance and that this research work has not been so far submitted elsewhere for aforesaid degree. Mr. Agrawal has put all the formalities according to the rules and regulations laid down in the statutes of Bundelkhand University, Jhansi.

DATE : 7.4.05


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Structure of the Thesis

CHAPTER—1

The opening chapter is the introductory chapter as this chapter indicates the basics of the Indian economy and the Indian agriculture and industry. The importance of the agro-based industries. Review of the literature is included in this chapter as the review represents the whole picture of entire research work. The objects for which the research work is being made are included in this chapter. Finally the methodology i.e. indication of the action of work or to say the methods from where the primary and secondary datas have been collected are included.

CHAPTER—2

This chapter is about the development of the country, comprising agricultural and industrial development. As it is very essential to know about the economic characteristics of the country because the present research work is about the development of the economy of the district and the entire development of the country depends upon the individual development of the districts, so the salient features of Indian economy are included in this chapter. A big factor of the development of the country is the intervention of the government through various policies and plans, thus for solving the problems of poverty and unemployment; various programmes were started by the government, so the plans made by the government for solving the problem of unemployment and poverty; at a glance have been included in this chapter.

CHAPTER—3

The third chapter is about the area of operation i.e. about the district Jalaun. The geographical situation, economic activities, the available resources of the district and the opportunities that are existed in the district for the industrial development especially the development of agro-based industries are included in this chapter. The Performa of agriculture economy and the industrial situation of the district and various other informations are the contents of this chapter.

CHAPTER—4

In the fourth chapter the detailed study of the various agro-based products has been made. For establishing any agro-based industry it is quite essential to know all the inns and out of the product as well as about that industry. Great efforts have been made for finding out the various informations about the some agro-based products. Sample units of agro-based industries as Bread Plant, Floriculture and Refined Oil have been taken for the purpose of Analysing these industries. In the analyses the introductory part of the product, raw material used, manufacturing process and from the accounting point of view; the estimated cost of product have been included. An important feature of the success of any industry is the availability of proper market, where the product is going to be sold out. Thus keeping in mind this factor the intensive market survey has been made in the field.

CHAPTER—5

The fifth chapter is about the agro-based industries established in the district Jalaun. Sample units using the statistical technique as stratified random sampling technique have been taken for the analysis of the industry. Also the form of employment and performance of production is stated. This chapter also includes

the questionnaires which has been used while in the practical field work. The first questionnaire has been presented before the management and the administrative officers of the industry for knowing the ins and out of the industry. The second questionnaire has been helpful in finding out the various aspects of various government institutions and societies which are engaged in promoting agricultural and industrial sector.

CHAPTER—6

The finance in any industry plays as an important role as such as the blood plays in the body. Proper availability of the finance is the most essential factor for properly running any industry. Thus in the sixth chapter the sources of capital are analysed for both agriculture as well as for industry. For avoiding from the over capitalisation and under capitalisation, the finance should be maintained properly i.e. the industry should have the loan as required ; that's may be short term, medium term or long term finance, so keeping this point; the forms of the capital are analysed in this chapter.

CHAPTER—7

In the seventh chapter the employment opportunities existed are stated. Different types of industries require the different types of labour. Some industry require the skilled labour at the same time other type of the industry may be run only with the help of unskilled labour. Thus in the chapter the nature of labour required for the agro- based industries is discussed. The productivity of the labour also depends upon the condition in which the labour is working, in the other words the working conditions of the labour affect on the productivity of the labour. In the chapter the working conditions of the labour are discussed. Labour problems are also mentioned in this chapter.

CHAPTER—8

The eighth chapter deals with the problems of the industries. In reality no industry is free from the various types of problems. Some industry faces the problem of management on the other side another may face the problem of raw material or finance. Thus keeping the industry free from the various problems it is quite important to manage all the aspects of the industry. No problem should be underestimated and should be tackled properly. Thus in the chapter the various problems of the industry are discussed and suggestion to solve them on practical basis are mentioned. These problems are related to the industries which were visited while in the field work and suggestions for solving them are also dependent upon the facts.

CHAPTER—9

The chapter nine is the result of the research work as in it the conclusions are mentioned. Various aspects which were investigated and the various opportunities which have been found to be existed in the district for the development of agro-based industries as well as the economic development of the district are mentioned.

CHAPTER—10

The tenth chapter consists the suggestions for the development of agro-based industries. Various steps should be taken by the government as well as by the individuals for promoting the agro-based industries. Also the development model representing the whole picture of the development of the district Jalaun is presented. The formula made for the development of the district Jalaun may also be adopted as the growth model of the development of the country. Thus in this chapter the growth model is presented.

CHAPTER-I

INTRODUCTION

CHAPTER- 1

INTRODUCTION

1.1 Preface

Agriculture is an important means of livelihood in developing countries. The most important feature of developing countries has been the dependency of economy on agriculture. For the economic development of the country, the development of agriculture is not only essential but also vital.

Industrialisation is a source of achieving the proper economic growth. In developing countries the industrialisation has been dependent on agriculture. Agriculture is not only the base of supplying raw material for industries but also provides a big market for the finished product of the industry.

In India the vast majority of farmers are too poor to buy even the essential inputs, such as improved seeds, fertilisers and insecticides. Not to speak of affording the more expensive producer's goods like harvesters, tractors, sowing machines, etc. In manufacture also the vast majority of enterprises in India are run either on an individual or on a partnership basis; and it is beyond the means of enterprises to employ modern and more productive techniques.

One of the salient features of Indian economy is dominance of agriculture and heavy population pressure on agriculture. Agriculture sector today provides livelihood to about 64% of the labour force, contributes nearly 26% of Gross Domestic Product (GDP) and accounted for 18.1% (1999-2000) and 14.6% (2000-01) share of total value of country's export.

Another feature of the economy is lack of the industrialisation. India lacks in large industrialisation based on modern and advanced technology, which fails to accelerate the pace of development in the economy. Average annual growth rate of industrial sector (including mining, manufacturing and power generation) was 8.5% in the seventh plan against the target of 8.7% per annum. This rate was only 3.5% per annum during the sixth plan. During 8th plan, the annual average growth rate of industrial sector was 8.1% against the target of 7.6% per annum. During the 9th plan the annual growth rate of

industrial sector in various year has been as under-

Year-	1997-98	98-99	99-2000	2000-01	2001-02
Rate-	6.7	4.1	6.7	5.0	2.3

While for getting the growth rate of 8% in the 10th plan, 10% growth rate of industrial sector is required.

On a very large scale the economic development of the country depends upon the development of Agriculture-based industries. Various important industries in India find their raw material from agriculture sector. Cotton, Jute, Textile, Sugar and Vanaspati industries etc. are directly dependent on agriculture. Handloom, Spinning, Oil milling, Rice thrashing, Flour mill etc. are various small scale and cottage industries which are dependent on agriculture sector for their raw material. This highlights the importance of agriculture in industrial development of the Nation.

Development of agriculture based industries also helps in removing the problem of unemployment, poverty that ultimately helps in achieving the economic growth.

U.P. is the biggest state of India in population. The population of the state is 16.60 crore out of which 13.15 crore or near about 79% of the population live in villages. Their main occupation is agriculture. Agro-based industries are also being adopted as livelihood. Near about 8 lack people are getting employment from agro-based industries. Main crops of U.P. are Paddy, Wheat, Pea, Pulses, Phaseolies, Pigeon pea, Maize, Millet, Lentil, Kidney-bean, Sugar cane etc. Sugar mill, Jute, Textile, Rice and Dall mill have been developed in the state.

Economic development of the state is not equal. Regional disparities have grown up. Keeping in mind that for making the economy developed, it is quite essential to develop the agro-based industries. Such industries are facing so many problems resulting low yield and poor quality of product in comparison to other countries. So if we want to keep the exports of the country at a very progressing stage, we would have to pay attention to promote and develop the agro-based industries which would ultimately enhance the productivity and the exports of the country and would helpful in making the balance of payment of the country favourable.

Agro-based industries also help in removing so many problems of the country. As these industries enhance the productivity of the country which ultimately increase the

per capita income as well as the national income.

District Jalaun is situated on the southwest side of the state. The economy of the district Jalaun is still agro-based. Besides producing the foodgrains, commercial and plantation crops are also produced. Due to this the availability of raw material for industries is possible.

As it is known from the dates that 79% of the total population of the district is dependent upon the agriculture. The marginal productivity of the labour is zero or sometimes it is negative too. Thus in the district disguised unemployment exists. Thus for reducing the dependency of labour on agriculture, it is essential to develop the industries, so that the excess labour may be shifted from agriculture to industry. Now a question arises that what types of industries should be developed keeping in view the available resources and the skills of the labourers.

The object of the present research work is also to find out the opportunities of the establishment of the industries in the district, keeping in view the available resources in the district.

As agro-based industries need to be started with low investment of capital and also the raw material is available easily and too skilled labourers are also not required so there exists the great opportunities of the establishment of agro-based industries. It includes the floriculture. Horticulture and producing of medical plants and fishing and allied agricultural activities.

The present research work is also about the role of agro-based industries in the development of district Jalaun. In this work the agro-based industries of district Jalaun are analysed and also investigation has been made about the opportunities of the establishment of agro-based industries. Great efforts have been made to find out all ins and outs of the agro-based industries which are established or may be established in the district .

1.2 Review of Literature

India is an underdeveloped economy. There is no doubt that the bulk of its population lives in condition of misery. There exist unutilized natural resources. Indian economy is primary producing. A very high proportion of working population is engaged in agriculture. In 1999, about 61% of the working population was engaged in agriculture and its contribution to National Income was 28%.

Although from the occupational point of view the Indian economy is primary producing yet one can not easily escape the conclusion that agriculture continues to be a depressed industry as the productivity per person engaged in it is very low.

When we analyse the employment opportunities we see that in India labour is an abundant factor and consequently it is very difficult to provide gainful employment to the entire working population.

Moreover, in the agriculture sector of the Indian economy, a much larger number of labourers are engaged in production than are really needed. Accordingly the marginal productivity of labour in agriculture is often negligible; it may be zero or even may be negative, thus there exists 'disguised' or concealed unemployment in agriculture. Even if surplus population is siphoned off, the total output from agriculture will not fall because those persons who were working below capacity begin to be utilised to the full. Disguised unemployment in rural areas is the result of heavy pressure of population on land and absence of alternative employment opportunities in our villages.

In India capital per head available is low and secondly the current rate of capital formation is also low. Gross capital formation in India is less than that of developed countries. In India the quality of human capital is poor. India suffers from mass illiteracy. Illiteracy retards growth. A minimum level of education is necessary to acquire skills as also to comprehend social problems. Rural areas where illiteracy is a rule, are the backwaters of civilization and the centres of superstition, social taboos and conservatism.

But if we enlarge the definition of capital formation to include the use of any resource that enhances productive capacity, then besides physical capital the knowledge and training of the population will also form a part of capital. As a result the expenditure on education, skill formation, research and improvements in health are included in human

capital. The Indian expenditure on primary to higher education and research and development in 1997 was about 3.2% of the G.N.P. the corresponding figure for the U.S.A. is 5.4% of G.N.P.

In India most modern techniques exists side by side with the most primitive in the same industry, but there is no gain saying the fact that the majority of the productive units and a major part of the output is produced with the help of techniques which can be described as inferior judged by modern scientific standards.

Since new techniques are expensive and require a considerable degree of skill for their application in production, the twin requirements for the absorption of new technology are the availability of capital and training of an adequate number of personnel. It is necessary to have a basic minimum level of education among the actual producers in order that the economy can absorb new technology.

Deficiency of capital hinders the process of scrapping off the old techniques and the installation of the up-to-date and modern techniques. Illiteracy and the absence of a skilled labour force are the major hurdles in the spread of technology in the economy.

The Indian economy suffers from this basic weakness. The low productivity per hectare in Indian agriculture and the low level of productivity per worker in agriculture and industry are largely a consequence of technological backwardness. In India the vast majority of farmers are too poor to buy even the essential inputs, such as improved seeds, fertilisers and insecticides, not to speak of affording the more expensive producers' goods like harvesters, tractors, sowing machines, etc.

A noteworthy change in Indian agriculture was it's Commercialisation that spread between 1850-1947. Commercialisation of agriculture implies that production of crops for sale rather than for family consumption.

By the middle of the nineteenth century, industrial revolution had been completed in England. There was a tremendous demand for raw materials especially cotton, jute, sugarcane, groundnuts for the British industries. By offering a higher bait of market price, the peasants were induced to substitute commercial crops for the food crops as the former were more paying than the latter. Consequently the peasants shifted to industrial crops and in some districts the movements for commercial agriculture became so strong that the peasants started buying foodstuffs from the *mandis* for their domestic needs. This led to a

fall in the production of food and consequently this period is marked by the occurrence of most terrible famines in the economic history of India. Commercial agriculture was also to some extent, the result of the mounting demands of the land, revenue by the state and excessive rents by the landlords from the peasantry.

The process of commercial agriculture necessitated by the industrial revolution was intensified by the development of an elaborate network of railway in India after 1850. Railways linked the interior of the country with ports and harbours, urban marketing centres and thus Indian agriculture began to produce for world markets.

Agriculture has got a prime role in Indian economy. Though the share of agriculture in national income has come down since the inception of planning era in the economy but still it has a substantial share in GDP. The contributory share of agriculture in Gross Domestic Product was 55.4% in 1950-51, 52% in 1960-61 and is at present reduced to nearly 25% only.

Agriculture sector, at present provides livelihood to about 64% of the labour force. Various important industries in India find their raw material from agriculture sector. Cotton, textile, jute sugar, vanaspati industries etc. find their raw material from agriculture. Allied agriculture activities like horticulture, agro-forestry, fisheries, milk dairy etc. are directly or indirectly dependent on agriculture.

At the same time Handloom, spinning, oil milling, rice thrashing etc. are various small scale and cottage industries which are dependent on agriculture sector for their raw material.

India's foreign trade is deeply associated with agriculture sector. Value of agriculture exports to total exports of the country has been ranging between 15 to 20%. Besides, goods made with the raw material of agriculture sector also contributes about 20% in Indian exports. In other words, agriculture and its related goods contribute about 38% in total exports of the country.

When we analyse the industrial growth under planning we see that the progress of industrialisation during the last 50 years since 1951 has been a striking feature of Indian economic development. The process of industrialisation, launched as a conscious and deliberate policy under Industrial Policy Resolution of 1956 and vigorously implemented under the five year plans, involved heavy investments in building up capacity over a wide

spectrum of industries. As a result, over the last nearly 50 years, industrial production went up by above five times, making India the tenth most industrial country of world. The industrial structure has been widely diversified covering broadly the entire range of consumer, intermediate and capital goods. The progress India has made in the field of industrialisation is clearly reflected in the commodity composition of India's foreign trade in which the share of imports of manufactured goods has steadily declined; on the other hand, industrial products, particularly engineering goods have become a growing component of India's exports. Finally, the rapid stride in industrialisation has been accompanied by a corresponding growth in technological and managerial skills for efficient operation of the most sophisticated industries and also for planning, designing and construction of such industries.

India has attained self-sufficiency in almost all consumer goods. Growth of capital goods production has been specially impressive. An impressive industrial capacity has been achieved in mining and metallurgical industries, chemical and petrochemical industries, fertilizer production, capital goods industries including sophisticated equipment for steel mills, fertilizer plants, chemical plants, etc. light, medium and heavy engineering industries, power and transportation industry, construction industry, etc. Further, India can now sustain the future growth of vital sectors of the economy primarily through domestic efforts and only with marginal imports. Finally, the infrastructure including R & D capability, consultancy and design engineering services, project management services and innovative capacity to improve and adapt technologies have indeed shown an impressive record of progress.

When we analyse the agriculture, agro-based industries and allied agriculture activities in the context of foreign trade we see that India's share of the world trades in agriculture is only 1%. Its share in the world trade of agriculture products, except for the traditional items exported, has been low due to lack of export orientation in domestic production. Further as a policy, exports of items of mass consumption are only permitted in a manner, which does not compromise the food security of the country. The agriculture products exported from India include tea, coffee, raw cotton, rice, wheat, coarse grains, tobacco, fruit juices, cashew, sesame, Niger seed, oil meal extractions, sugar, flowers and horticulture products, fresh fruits and vegetables, processed fruits and juices, meat and

meat preparations.

Fruits and Vegetables Industry:- Agriculture growth has been key to the economic development of many countries. With the agro-exports as the 'engine' of growth process. Access to the globally convertible currency is crucial part of the nation's development; especially in less developed countries, with non-convertible currencies, where efforts to gain this access becomes a necessary ingredients of growth process. In the less industrialized and densely populated countries, banking on agro-exports for realising this goal is thus natural. In the sphere of agricultural exports (horti-exports) promotion as a crucial component of strategies for diversifying agricultural exports, India has rich varied agro-ecological and geographical resource base. This diverse potential can be fruitfully harnessed, for overall production and exportable product range. In the current globalization scenario, where, nations eye each other for cutting larger pie out of the total global market, strategies to diversify production are of crucial importance. Horticultural goods are becoming a promising component of India's agro-exports.

For raising the nutritional status of the country, it is essential to have a higher level of consumption of fruits and vegetables. While, exports of horticultural products have been going on for decades, the potential to earn a larger foreign exchange has been emphasized only recently. Horticulture products account for over 25 per cent of the total export of agricultural commodities from India. India is exporting fresh fruits, vegetables, cut flowers, seeds, cashew kernels and its products, spices and their products and processed products of fruits and vegetables. Of these, the exports of fresh fruits and vegetables, flowers and seeds has been taken up since last decade. The total value of export of these commodities increased from Rs 1499.78 crores in 1991-92 to Rs 30005.65 crore in 1995-96 accounting for a total increase of over 100 per cent.

Among fresh fruits mangoes, particularly Alphanso, kesar, Dusheri, Banganapalli varieties and grapes constitute the bulk of exports. Other fruits being exported in smaller quantities are banana, sapota, pomegranate, ber guava, litchi, kinnow, strawberry etc. the total export of fresh fruits was 1.87 lakh tones by the end of VIII plan. In vegetables, the bulk of the export is onion and potato. Other vegetables being exported in smaller quantities are okra, brinjal, tomato and chilies. The total export of fruits and vegetable has recorded an increase of 55.3%. it is clear that despite the development of improved

technology, the productivity achieved by the Indian farmers is rather low.

Spices Industry:- At the same time in the world of spices and herbs, India plays a pivotal role. More than 52 spices and herbs are grown in our country. Our annual production is two million tons. This nature's bounty has enabled us to contribute the lion's share in spices and herbs in the international basket.

Currently, India's spice export amounts to 40 per cent of global spice trade in quantity and 19.5 percent in value equivalent to 2,20,000 tons in quantity and US \$ 340 million in value. This reveals India's leadership in the trade. Our export spectrum is led by pepper followed in the order by chilli, spice oils and other spices. Since the inception of the spices board in 1987 several quality improvement measures have been adopted with close interaction with the exporting community represented by the all India spices exporters forum. In this area of fast changing world economy, closer co-operation is vital between trading partners globally. As a member of WTO, each country becomes part of the global economy and so quality concerns and trade barriers are to be well disseminated and debated to have a better understanding of all concerned for faster development in each sector.

Now the spice industry is focusing on the major concerns of the trade such as pesticide residues, mycotoxins, heavy metals, microbial, contamination, etc. a business plan is underway to tackle these quality issues in collaboration with the world organizations. In addition, dissemination of information on these issues to farmers and training programmes at the grass root level are in progress. This will lead to an assured source of excellent raw material. Our ultimate goal is to deliver 'clean spices' rather than 'cleaned' spices, towards this end; organic farming of spices is a major initiative.

Further, spices and herbs are building blocks to a series of value added derivatives- such as spice oils, oleoresins, food colours, mint oils, hydroxycitric acid, ground spices, curry powders, freeze dried green pepper, dehydrated pepper, green and pink pepper in brine. We have the expertise and world class facilities to manufacture all these products which now dominate the international market. This has completely changed the scenario in the processed food, nutraceutical and perfumery industries.

In 1990-91, total export of all commodities amounted to Rs. 43187 crores. While exports of all agricultural commodities amounted to Rs. 6017 crore contributing 13.93%

to the total, the share of spices was a mere Rs. 242 crore at 0.56%. the share of spices in the export of agricultural products alone was 4.02%. however, with in just 6 years in 1996-97 total exports from the country reached Rs. 117525 crores, an increase of 172 %. Exports of all agricultural products increased by 299 % to Rs. 23988 crores now contributing 20.41 % to the total. But during the same period export of spices went up by 388 %, crossed the magical figure of Rs. 1000 crores to reach Rs. 1180 crores, now contributing 5.16% of agricultural and 1 % of all exports from the country.

Floriculture Industry :- A growing agriculture allied industry in India is 'Indian Floriculture Industry'. The global acreage for both the cut flowers and pot plants are increasing. The world cut flower acreage, based on the seventeen most important countries, was estimated at 76000 hectare in 1997. This is 13% more than 1992 (56000 Ha). Over a quarter of the acreage is in Japan. The Netherlands, Italy, the USA and Mexico each contributed about 10% to the world acreage.

The percentage of protected cultivation remained the same between 1995 and 1997. cultivation has taken place under plastic or in glasshouses in about 28% of the acreage.

Japan, US, Italy and Netherlands are the world's main producers of both flowers and pot plants. On the supply side, Europe plays a great role having more than 76% share of the total world market of cut flowers. The Netherlands is the largest exporting country with a share of 58%. The other major exporters are Columbia, Italy, Israel and Kenya.

Floriculture products exported from India include bulbs, tubers, roots, cactus, cut flowers for bouquets, edible fruit trees, flowering plants, foliage, live mushroom spawn, mosses and lichens for bouquets, other dendrobiums and unrooted cuttings.

All these floriculture products are currently being exported to countries all over the world. USA, Netherlands, Germany, Japan, UK and Gulf countries are the major buyers of Indian floriculture products. Japan itself has been regularly buying many of these products. Among the floriculture products that India has been exporting fresh cut flowers (especially cut roses) is the single most important item in terms of value and has grown in recent years. The main reason for this is the sharp increase in the number of hi-tech floriculture ventures that have been setup in India in the last few years.

The country has only two green house projects in 1989. These have presently

gone beyond 50 and many more are in various stages of planning and execution. Approximately 175 hectares of area are under green house production today. Between 1986 and today, 134 EOUs have been registered entailing an investment of Rs. 1000 crores. Bangalore, Pune, Gurgaon in Harayana, Hyderabad and Thiruvananthapuram are major centres. Everyday new floriculture ventures are coming out with public issues to raise funds in the capital market. Corporate houses in India have understood the commercial benefits of entering into this industry.

Experts in the floriculture sector estimate that more than Rs. 3000 crore capital investments have already taken place over the last 3 years. And in addition to that more than 1000 entrepreneurs have applied for registration to start new floriculture projects.

Plantation Crops Industry :- Plantation crops occupy three million hectares of gross cultivated area of 177 million hectares in India and constitute a fragmental area of around 2 %. But the bulk of the holdings are marginal too small in size. Though the crops cover only about two percent of the total cultivated area, from the point of view of national wealth and capacity it earns foreign exchange. Apart from the internal consumption it contributes to 80 percent of foreign exchange earned by agriculture and plays a vital role in the agrarian economy of our country.

Production and productivity of the crops of 'TRAP CROPPING SYSTEM'

(T= Tropical/ and tree, R= Rubber, A= Area cannot, P= Oil palm, 6Cs (Coffee, Coconut, Cardamom, Cashew, Cassava and Cocoa) have increased by several folds particularly in the past one and half decades. This has been possible because of the intensified and sustained research work by our plantation crops research institutions. In some crops erratic low and high yield are registered. It is opportune time to go into the factors that are responsible for these variations and standardize low cost high technology to enhance production and sustain it with increased quality standards.

Production of tea is around 6.57 lakh tones over an area of 3.96 lakh Ha. Presently and the foreign exchange earned is around Rs. 750 crores. Production of 11 lakh tones of tea with marginal expansion of area of 4.5 lakh has been set as a future target. This would result in an earning of around 1300 crores of rupees of foreign exchange. Productivity of tea from 1659 Kg/Ha is to be stepped upto 2444Kg/ha which is the future goal.

India produces 0.297 million tonnes of natural rubber, but its consumption was 0.342 million tonnes in 1996-97. While other rubber producing countries like Malaysia, Indonesia, and Thailand do not have sufficient consuming industries, India consumes the entire rubber produced and the widening gap between supply and demand which is likely to widen further due to new industrial policies and expected spurt in industrial growth needs to be bridged to meet the estimated demand of 1.0 million tonnes by 2010 AD. Expansion in estimated potential area of 1.2 million Ha in non-traditional areas is set as target during the VIII plan period.

At present 5664 million coconut are produced over an area of 11.13 lakh ha. And the future target has been set to produce of 12000 million nuts with an area expansion to 21 lakh ha.

The target drawn up by all the concerned in these plantation crop commodities indicates that there exists immense potential for the growth of production and exports. Any developmental strategies attempted in this sector will have great importance on internal economy besides its significance on exports and foreign exchange earnings. Millions of people are employed and millions more are dependent on those employed in this sector. We should look for possibilities for increased productivity at sustained quality and should make efforts to develop this sector and enable our country to have its due slot in international scene, under fierce competition. We cannot increase area for various environmental problems.

Multi-disciplinary approach is more or less an accepted practice for better end results. Multi-institutional approach and establishment of common facilities, which will enable pooling of scientific expertise that, eliminates isolation and enhance possibilities of deriving positive results. Substantive saving in time and resources could be achieved through this approach.

The scope of diversification of the products in plantation is vast. The processing for that matter should be quality oriented and suit eminently to the consumer demand and a wide array of value added products is to be developed to augment the resource potential and to meet the consumer demand in national and international markets.

When we analyse the economy of the District Jalaun we see that the economy of district is agrarian. The availability of raw material for agro-based industries is possible. The level of education is also not too good. Here exists vast rural unemployment. Rate of capital formation as well as availability of capital is not satisfactory. Due to large disguised unemployment there is no scarce of labour. The labour of district is unskilled. In the district the infrastructure facilities are also not satisfactory. All the villages of the district are not electrified. And where the electric is available it is not in proper ways.

Thus keeping in mind all the available resources in the district we have to see that how the development of the district may be made.

We see that agro-based industries may be established with low investment of capital . it require larger number of labourers as these industries are labour intensive. In such industries too much skilled labourers are also not required.

In short the following factor should exist for the development of agro-based industries:

- Availability of raw material
- Availability of labourers
- Low investment of capital
- Cottage, Small and Medium size of industries possible

Thus we can conclude that the economy of the district is agrarian. The availability of raw material is easily possible which is helpful in promoting such industries as well as in removing the problem of unemployment.

The market for finished products of such agro-based industries is available in the district itself as well as in the neighbouring districts. Also the opportunities exists of the export of such products, but for it we would have to pay attention towards the quality and quantity of the product.

Concluding we find that in the operation area i.e. in the district Jalaun there are so many agro-based products which were found to be very appropriate to the above conditions and thus the following industries have great opportunities to be established :

- Flour mill
- Bakery products industries like biscuits, bread etc.

- Pulses (dall mill)
- Processed Peanuts, Namkins etc.
- Fishing and Canning (finished product of fish)
- Floriculture
- Herbal Plantation and its final products
- Processed fruits and vegetable like tomato and chilly sauce and tomato soup
- Paper products like hand made paper and boxes
- Herbal cosmetic items
- Herbal medicines
- Vegetable products like processed vegetables and its products as Allu chips etc.

1.3 Objects :-

Objects of the study are as follows:-

- 1- To study the various Agro-based Industries of the district established after 1991.
- 2- To analyse the factors responsible for development of the Industries.
- 3- To find that what further steps should be taken by the government to improve the economy of the district.
- 4- To find how the Agro-based Industries could made it possible to develop the economy of the district.
- 5- To find what opportunities exist in the district for the development of the industries.
- 6- To present the Model of the development of the district.

1.4 Methodology :-

The present research work is based upon primary and secondary sources. Primary datas have been collected specially from the Industries Office. The primary datas have also been collected through personal interview and discussion with management and administrative officers of various agro-based industries. Samples have been drawn by using stratified random sampling technique.

The secondary datas have been collected from Government publications, research papers & other document related to agro based industries and rural development. These datas are analysed systematically using statistical tool/ techniques with the help of computer. Suitable software are used for analyzing these datas. The graphical illustration are given to illustrate the various aspects.

1.5 Chapter Plan (Structure of the Thesis)

CHAPTER—1

The opening chapter is the introductory chapter as this chapter indicates the basics of the Indian economy and the Indian agriculture and industry. Review of the literature is included in this chapter as the review represents the whole picture of entire research work. The objects for which the research work is being made are included in this chapter. Finally the methodology i.e. indication of the action of work or to say the methods from where the primary and secondary datas have been collected are included.

CHAPTER—2

This chapter is about the development of the country, comprising agricultural and industrial development. As it is very essential to know about the economic characteristics of the country because the present research work is about the development of the economy of the district and the entire development of the country depends upon the individual development of the districts, so the salient features of Indian economy are included in this chapter. A big factor of the development of the country is the intervention of the government through various policies and plans, thus for solving the problems of poverty and unemployment; various programmes were started by the government, so the plans made by the government for solving the problem of unemployment and poverty; at a glance have been included in this chapter.

CHAPTER—3

The third chapter is about the area of operation i.e. about the district Jalaun. The geographical situation, economic activities, the available resources of the district and the opportunities that are existed in the district for the industrial development especially the development of agro-based industries are included in this chapter. The Performa of agriculture economy and the industrial situation of the district and various other informations are the contents of this chapter.

CHAPTER—4

In the fourth chapter the detailed study of the various agro-based products has been made. For establishing any agro-based industry it is quite essential to know all the ins and out of the product as well as about that industry. Great efforts have been made for finding out the various informations about the some agro-based products. Sample units of agro-based industries as Bread Plant, Floriculture and Refined Oil have been taken for the purpose of Analysing these industries. In the analyses the introductory part of the product, raw material used, manufacturing process and from the accounting point of view; the estimated cost of product have been included. An important feature of the success of any industry is the availability of proper market, where the product is going to be sold out. Thus keeping in mind this factor the intensive market survey has been made in the field.

CHAPTER—5

The fifth chapter is about the agro-based industries established in the district Jalaun. Sample units using the statistical technique as stratified random sampling technique have been taken for the analysis of the industry. Also the form of employment and performance of production is stated. This chapter also includes the questionnaires which has been used while in the practical field work. The first questionnaire has been presented before the management and the administrative officers of the industry for knowing the ins and out of the industry. The second questionnaire has been helpful in finding out the various aspects of various government institutions and societies which are engaged in promoting agricultural and industrial sector.

CHAPTER—6

The finance in any industry plays as an important role as such as the blood plays in the body. Proper availability of the finance is the most essential factor for properly running any industry. Thus in the sixth chapter the sources of capital are analysed for both agriculture as well as for industry. For avoiding from the over capitalisation and under capitalisation, the finance should be maintained properly i.e. the industry should have the loan as required ; that's may be short term, medium term or long term finance, so keeping this point; the forms of the capital are analysed in this chapter.

CHAPTER—7

In the seventh chapter the employment opportunities existed are stated. Different types of industries require the different types of labour. Some industry require the skilled labour at the same time other type of the industry may be run only with the help of unskilled labour. Thus in the chapter the nature of labour required for the agro- based industries is discussed. The productivity of the labour also depends upon the condition in which the labour is working. In the other words the working conditions of the labour affect on the productivity of the labour. In the chapter the working conditions of the labour are discussed. Labour problems are also mentioned in this chapter.

CHAPTER—8

The eighth chapter deals with the problems of the industries. In reality no industry is free from the various types of problems. Some industry faces the problem of management on the other side another may face the problem of raw material or finance. Thus keeping the industry free from the various problems it is quite important to manage all the aspects of the industry. No

problem should be underestimated and should be tackled properly. Thus in the chapter the various problems of the industry are discussed and suggestion to solve them on practical basis are mentioned. These problems are related to the industries which were visited while in the field work and suggestions for solving them are also dependent upon the facts.

CHAPTER—9

The chapter nine is the result of the research work as in it the conclusions are mentioned. Various aspects which were investigated and the various opportunities which have been found to be existed in the district for the development of agro-based industries as well as the economic development of the district are mentioned.

CHAPTER—10

The tenth chapter consists the suggestions for the development of agro-based industries. Various steps should be taken by the government as well as by the individuals for promoting the agro-based industries. Also the development model representing the whole picture of the development of the district Jalaun is presented. The formula made for the development of the district Jalaun may also be adopted as the growth model of the development of the country. Thus in this chapter the growth model is presented.

CHAPTER-II

ECONOMIC DEVELOPMENT OF THE COUNTRY

CHAPTER -2

ECONOMIC DEVELOPMENT OF THE COUNTRY

2.1 Salient features of Indian economy :-

India is an underdeveloped economy, there is no doubt that the bulk of its population lives in conditions of misery. Poverty is not only acute but is also a chronic malady in India. At the same time, there exist unutilized natural resources. It is , therefore, quite important to understand the basic characteristics of the Indian economy. The salient features of Indian economy are as below:

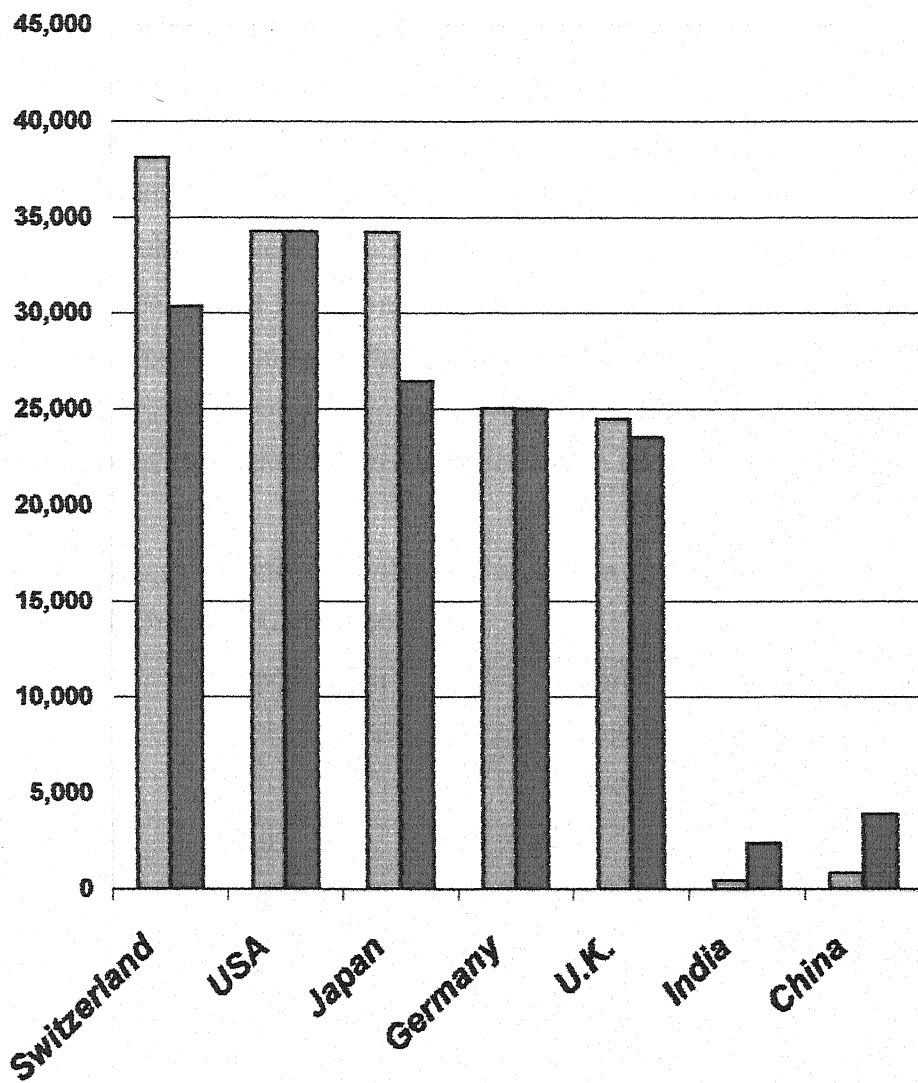
(1) Low Per Capita Income:- underdeveloped economies are marked by the existence of low per capita income. The per capita income of an Indian in 2000 was \$ 460. Barring a few countries, the per capita income of the Indian people is the lowest in the world. The per capita income in Switzerland in 2000 was about 83 times, in Germany about 56 times, in the U.S.A. and in Japan 74 times the per capita income of India. During 1960-80, developed economies grew at a faster rate than the Indian economy, but during 1990-2000, Indian economy has grown at a faster rate than the developed economies. Even then the difference in per capita income between India and the developed economies is very large. The per capita income of the developed countries and India during 2000 is shown in table given below :

TABLE -1 Per Capita GNP at Market Prices (In US Dollars)-2000

	Exchange Rate Basis	Purchasing Parity basis
Switzerland	38,120	30,350
USA	34,260	34,260
Japan	34,210	26,460
Germany	25,050	25,010
U.K.	24,500	23,550
India	460	2,390
China	840	3,940

Source : Compiled from World Development Report (2002)

**Per Capita GNP at Market Prices (In US Dollars)-
2000**



■ Exchange Rate Basis

■ Purchasing Parity basis

(2) Occupational Pattern :- One of the basic characteristics of Indian economy is that it is primary producing . A very high proportion of working population is engaged in agriculture, which contributes a very large share in the national income. In India, in 1999, about 61 per cent of the working population was engaged in agriculture and its contribution to national income was 28 per cent. In Asia, Africa and Middle East countries from two- thirds to more than four-fifths of the population earn their livelihood from agriculture , and in most Latin American countries from two-thirds to three-fourths of population are dependent on agriculture. From the table given below it is evident that the proportion of population engaged in agriculture in developed countries is much less than the proportion of population engaged in agriculture in under-developed countries.

TABLE -2 Percentage of Active Population Engaged in Agriculture and Industrial Origin of GDP in 2000

Country	Active population Engaged in agriculture	Industrial origin of GDP		
		Percentage Distribution		
		Agriculture	Industry	Service
U.K.	02	01	25	74
USA	02	02	27	71
Japan	05	07	32	61
Egypt	35	17	33	50
Pakistan	48	26	23	50
China	69	16	49	35
India	58	27	27	46

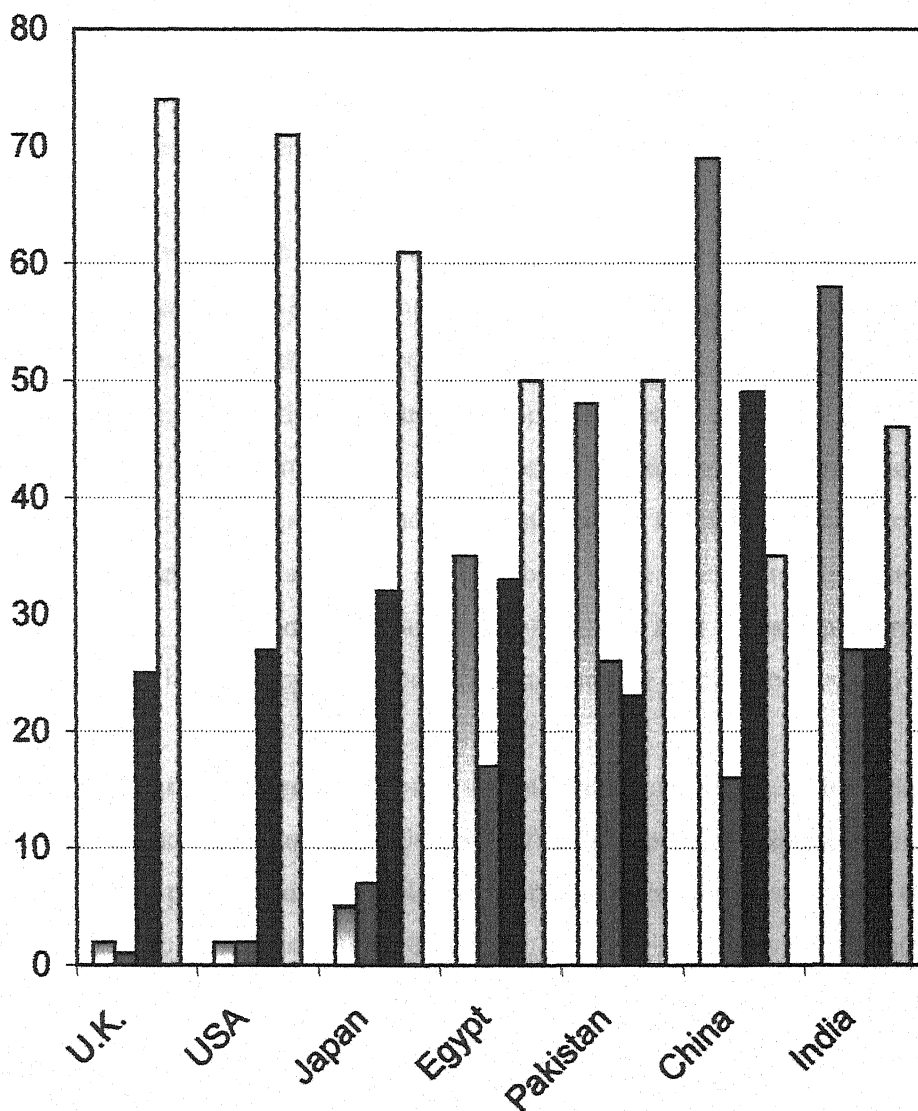
Figures are for 1997+for 2001.

Source : World Bank, World Development Indicators (2002).

: Tata Services Ltd. Statistical Outline of India (2001-2002).

From the point of view of occupational pattern, the Indian economy is primary producing because agriculture contributes 27 per cent of nation income while 58 per cent of the labour force is engaged in agriculture.

Percentage of Active Population Engaged in
Agriculture and Industrial Origin of GDP in 2000



- Active population Engaged in agriculture
- GDP Percentage Distribution in Agriculture
- GDP Percentage Distribution in Industry
- GDP Percentage Distribution in Service

(3) Heavy Population Pressure :- The main problem of India is the high level of birth rates coupled with a falling rate of death rates. The rate of growth of population which was about 1.31 per cent per annum during 1941-50 has risen to 1.93 per cent during 1991-2001. The chief cause of this rapid spurt to population growth is the steep fall in death rate from 49 per thousand during 1911-20 to 8.5 per thousand in 2000, as compared to this; the birth rate has declined from about 49 per thousand during 1911-20 to 25.8 per thousand in 2000.

The fast rate of growth of population necessitates a higher rate of economic growth in order to maintain the same standard of living of the population. To maintain a rapidly growing population, the requirements of food, clothing, shelter, medicine, schooling, etc. all rise. Thus a rising population imposes greater economic burdens and, consequently, society has to make a much greater effort to initiate a the process of growth. Moreover, a rising population leads to an increase in the labour force. According to Tenth Plan, between 2002 and 2007 alone, labour force is expected to increase by about 35 million i.e., at an annual average rate of 1.8 per cent. This rapid growth of labour force creates a higher supply of labour than its demand leading to unemployment.

(4) Prevalence of chronic unemployment and underemployment:- In India labour is an abundant factor and, consequently, it is very difficult to provide gainful employment to the entire working population. In developed countries, unemployment is of a Cyclical nature and occurs due to lack of effective demand. In India unemployment is structural and is the result of deficiency of capital. The Indian economy does not find sufficient capital to expand its industries to such an extent that the entire labour force is absorbed.

Moreover, in the agriculture sector of the Indian economy, a much larger number of labourers are engaged in production than are really needed. Accordingly, the marginal product of labour in agriculture is often negligible; it may be zero or may even be negative. Thus, there exists disguised or concealed unemployment in agriculture. Even if the surplus population is siphoned off, the total output from agriculture will not fall because those persons who were working below capacity, begins to be utilized to the full. Disguised unemployment in rural areas is the result of heavy pressure of population on land and the absence of alternative employment opportunities in our villages.

Though there is no doubt that unemployment exists in a greater degree in the urban areas, the rural areas too suffer from the problem of unemployment and underemployment. On this point the Third Five-Year Plan stated: “ In the rural areas both unemployment and underemployment exist side by side; the distinction between them is by no means sharp. In the villages unemployment ordinarily takes the form of underemployment. Urban and rural unemployment in fact constitute an indivisible problem.” The planning Commission on the basis of the NSS data has estimated that at the beginning of the Tenth Plan is 2001-02, on the current daily status basis, 35 million persons were unemployed. Taking the unemployed and underemployed together, they account for 9.21 per cent of the labour force. Moreover, 35 million persons will be added to the labour force during 2002-2007. Thus, the provision of employment to those suffering from open unemployment and underemployment becomes a major task of the planning process in India.

(5) Low rate of capital formation :- Another basic characteristics of the Indian economy is the existence of capital deficiency which is reflected in two ways-firstly, the amount of capital per head available is low; and secondly, the current rate of capital formation is also low. An important indicator of low capital per head available in underdeveloped countries is the consumption of energy. The table given below clearly indicates that per capita consumption of commercial energy in India is extremely low as compared to the advanced countries.

TABLE -3 Per Capita Consumption of Commercial Energy

Country	Per Capita Consumption of Energy (kgs. Of oil equivalent)(1999)
USA	8,159
U.K.	3,871
Japan	4,070
China	868
India	482

Source : World Development Indicators (2002)

The table given below reveals that gross capital formation in India is less than that of developed countries. Professor Colin Clark has estimated that in order to maintain the same level of living a country requires an additional investment of 4 per cent per annum. In India where the rate of population growth is 2.0 per cent (1981-98), about 8 per cent investment is needed to offset the additional burdens imposed by a rising population. Thus, India requires as high as 14 per cent level of gross capital formation in order that she may cover depreciation and maintain the same level of living. A still higher rate of gross capital formation alone can pave the way for economic growth to improve the living standard of the population. It is gratifying to note that India has reached a saving rate of 20 per cent in 1999 which is sufficient high. In the context of the rising population, the present rate of capital formation, though high, is not adequate.

TABLE -4 Gross Domestic Investment and Saving (as per cent of GDP)

Country	Gross Domestic Investment		Gross Domestic Saving	
	1990	1999	1990	1999
Japan	32	29	33	30
Australia	21	22	21	21
Germany	23	21	23	23
U.S.A.	17	19	15	17
U.K.	19	16	17	15
India	25	24	22	20

Source : World Bank, World Development Report, 2000-2001.

(6) Maldistribution of Wealth / Assets :- RBI Survey of assets of rural and urban households for the period July 1991 to June 1992 brings out the existence of sharp inequalities in assets distribution. In rural areas 27 per cent of households owning less than Rs 20,000 worth of assets accounted for 2.4 per cent of total assets. Similarly, about 24 per cent of households in the assets range of Rs. 20,000-50,000 owned barely 7.5 per cent of total assets. This implies that nearly 51 per cent of the bottom households owned just 10 per cent of the total assets. As against it, 9.6 per cent of the rich households

owning assets worth Rs. 2.5 lacks and above accounted for nearly 49 per cent of total assets.

TABLE -5 Percentage Distribution Of Households and Assets in India (1991-92)

Assets Group	Rural (%)		Urban (%)	
	Households	Assets	Households	Assets
Less than Rs. 20,000	27.0	2.4	33.5	1.4
Rs. 20,000-50,000	23.8	7.5	17.2	3.9
Rs. 50,000-1,00,000	20.9	14.0	16.0	8.0
Rs. 1,00,000-2,50,000	18.8	27.3	19.0	20.8
Rs. 2,50,000 & above	9.6	48.8	14.2	65.8
All Classes	100.0	100.0	100.0	100.0

Source : Reserve Bank Of India, All- India Debt and Investment Survey, 1991-92, RBI Bulletin, May 1999.

However, the situation in urban areas was much worse. 50.7 per cent of urban households owning less than Rs. 50,000 worth of assets accounted for barely 5.3 per cent of total assets. As against them, nearly 66 per cent of total assets of all urban households, were held by 14.2% of the households each owning Rs. 2.5 lacs of above. This implies that urban household indicated much worse asset distribution than rural households.

Inequalities in assets distribution is the principal cause of unequal distribution of income in the rural areas. It also signifies that resource base of 50 per cent of the households is so weak that it can hardly provide them anything above the subsistence level of income. This finding of Reserve Bank is also supported by National Sample Survey which reveals that 60 per cent of the poor rural households owned only 9.3 per cent of area operated, they had only 14 per cent of cattle heads and just 10 per cent of wooden ploughs.

(7) Poor quality of human capital :- A glaring feature of an underdeveloped economy is the poor quality of human capital. Most of the underdeveloped countries suffer from

mass illiteracy. Illiteracy retards growth. A minimum level of education is necessary to acquire skills as also to comprehend social problems.

Under the United Nations Development Programme (UNDP), countries have been ranked on the basis of Human Development Index (HDI). This index is based on life expectancy, adult literacy, combined enrolment ratio- first, second and third level and real GDP per capita (Purchasing Power Parity Basis) in US Dollars. It is very distressing to note that India has been ranked at No. 124 on the basis of HDI in 2000 while China stands at No. 96. Obviously, India has still to go a long way before it reaches the levels of developed countries in terms of human development index.

TABLE -6 Human Development Index (2000)

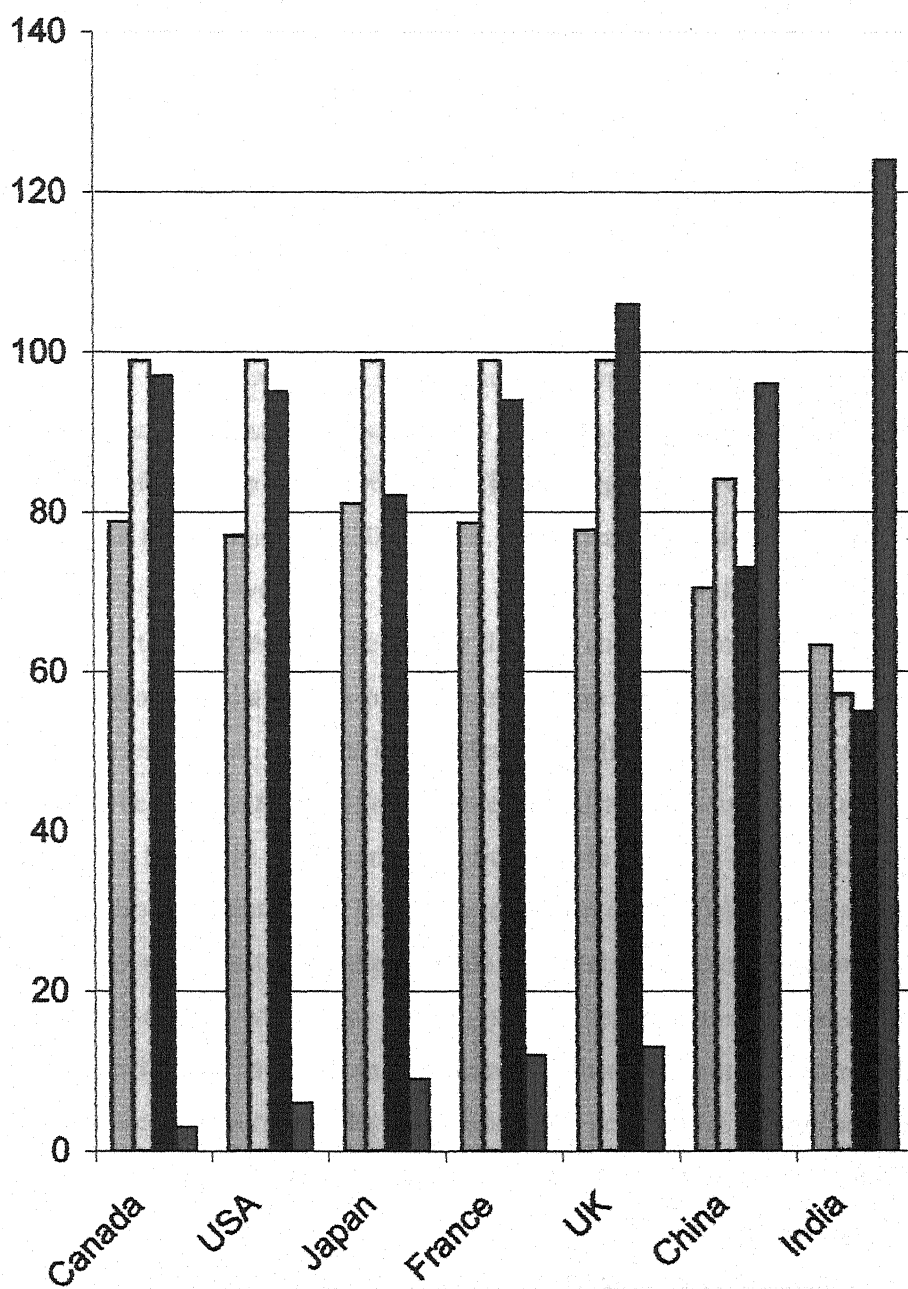
Country	Life Expectancy 2000	Adult literacy (%) 2000	Combined enrolment ratio (%) 1999	Per capita real GDP \$ (PPP) 2000	HDI rank
Canada	78.8	99.0	97	27840	03
USA	77.0	99.0	95	34142	06
Japan	81.0	99.0	82	26755	09
France	78.6	99.0	94	24223	12
UK	77.7	99.0	106	23509	13
China	70.5	84.1	73	3976	96
India	63.3	57.2	55	2358	124

Source : UNDP, Human Development Report (2002)

(8) Prevalence of low level of technology :- In India, the most modern technique exists side by side with the most primitive in the same industry, but there is no gain- saying the fact that the majority of the productive units and a major part of the output is produced with the help of techniques which can be described as inferior judged by modern scientific standards.

The Indian economy suffers from this basic weakness. The low productivity per hectare in Indian agriculture and the low level of productivity per worker in agriculture and industry are largely a consequence of technological backwardness. In India, the vast

Human Development Index (2000)



■ Life Expectancy 2000

■ Adult Literacy (%) 2000

■ Combined Enrolment Ratio (%) 1999

■ HDI Rank

majority of farmers are too poor to buy even the essential inputs, such as improved seeds, fertilizers and insecticides, not to speak of affording the more expensive producers' goods like harvesters, tractors, sowing machines, etc. In manufacture also, the vast majority of the enterprises in India are run either on an individual or an a partnership basis; and it is beyond the means of small enterprises to employ modern and more productive techniques.

(9) Low level of living of the average Indian :- Failure to secure a balanced diet manifests in India is the low calorie intake and low level of consumption of protein. In 1996 the average calorie intake of food is only 2,415 as compared to over 3,400 calories per day in most of the developed countries. This is, slightly above the minimum intake for sustaining the life estimated 2,100 calories. Since nearly 26 per cent of the population in India lives below the poverty line, it is very doubtful whether the poor get a minimum intake of even 2,100 calories. Another factor that has an important bearing on the health of the people is that in India cereals predominate, but in contrast the diet in the advanced countries is rich in content because it includes fruits, fish, meat, butter and sugar. The protein intake is nearly less than half of the level prevalent in advanced countries.

According to World Development Indicators, 46 per cent of the child population in India suffers from malnutrition. The average protein content of the Indian diet is only 44 grams per day as against more than double the level in developed countries. The per capita availability of milk which was 48 kgs. In 1960 has gone up to 75 kgs. In 1997-98. though it still much lower than that in developed countries per annum. Nearly 60 per cent of the mothers are malnourished. By 1996 about 85 per cent of Indian population had access to safe drinking water. This results in developing less strength to fight disease and is also partly responsible for the low level of efficiency of the Indian workers.

The picture of housing is equally bleak. According to estimates of National Building Organisation (NBO), the total housing stock was 125 million dwelling units in 1991. Out of this, over 50 per cent houses were either made of mud or unburnt bricks. The housing shortage in the country was estimated to be 31 million dwelling units in 1991. This estimates was based on the assumption that each household should have a pucca or semi- pucca house to live in urban areas, and a pucca, semi-pucca or serviceable

kutch house in rural areas. In urban, areas roughly 50 per cent of the population live in one –roomed houses with an average of four persons per house. About 31 per cent of the population in India's cities with a population of more than one million are slum dwellers. It has been estimated that every fifth house in India is unfit for living. The number of persons living in the open without shelter who are categorized as "houseless" increased from 12.6 lacks in 1961 to 23.3 lacks in 1981. According to an estimate prepared by National Building Organisation, at the end of March 1991, there was a shortage of 31 million housing units of which 20.6 million units were needed in the rural sector and 10.4 million in the urban sector. Slum population in major cities is also alarming. For instance, in 1990, as a percentage of the total population, slum population in some major cities was : Calcutta 40 %, Mumbai 42%, Chennai 39%, Delhi 38%. Despite all efforts at accelerating the construction of new houses, by the turn of the century, backlog of housing shortage will be around 41 millions units. This is supported by increase in slum population.

(10) Demographic Characteristics of Indian economy :- Among the demographic characteristics associated with underdevelopment are high density of population, 33.5 per cent of the population in 2000 was in the age group of 0—14 and 61.5 of the people in the working age group 15—64. Besides this, the average expectation of life is low and infant mortality rates are high. It would be proper to examine these characteristics.

The density of population in India in 2001 was 324 per sq. km. As compared with this the average density of population in the world is 47 per sq. km. in 2000.

According to 2001 census, 33.5 per cent of the total population is in the age group 0—14, 61.5 per cent is in the working age group, i.e. 15—64 and only 5.0 per cent in the age group of 65 and above. In other words, the proportion of children is higher in India than in the advanced countries, Obviously, this situation increases the dependency load, because the proportion and size of the non productive population is higher. Such a situation persists during a period of high population growth rate but will alter in favour of productive population as the rate of population growth slows down. The existence of a greater proportion of the population in the lower age group acts against production, but

favours a higher level consumption. The higher dependency load of the population is a typical characteristics of underdevelopment.

(11) The Socio- economic indicators of consumption:- The socio economic indicators of consumption are characteristics of underdeveloped economy in India. Underdevelopment also finds expression through several socio-economic indicators, such as per capita intake of calories, fats and proteins, population per TV set and physician. India is far behind the developed countries so far as these indicators of standard of living are concerned. Illiteracy rate is also very high in India –35% in 2001, as against less than 5 per cent in developed countries.

(12) Poor economic organisation :- Another important feature of the Indian economy is poor economic organisation. Certain institutions necessary for economic development are not adequately developed. India suffers from inadequacy of financial institution in rural areas. Similarly, India being a country of large number of small farmers, the development of certain agencies of credit for granting loans to farmers on easy terms is needed. Likewise, to provide medium and long -term loans to industries the development of industrial finance corporations is quite necessary.

The existence of a landlord class which exploits the poor tenants also calls forth early adoption and enforcement of tenancy legislation to protect them. The creation of better institutional pattern of ownership is necessary to release the productive energies of people. All these institutional bottlenecks require the development of an efficient and honest administration. In India, there is a great scarcity of skilled administrators and traditions of honest administration are sadly lacking.

To sum up, we can say that despite five decades of planning, India continues to exhibit the basic characteristic of an underdeveloped economy, though it has progressed substantially in certain areas. But we have miles to go.

2.2 Agriculture Development in India :-

Agriculture forms the backbone of the Indian economy and despite concerted industrialisation in the last five decades, agriculture occupies a place of pride. Being the largest industry in the country, agriculture provides employment to around 65 per cent of the total work force in the country.

The development of the agriculture sector in India before independence to till now is as under :

A- Agriculture Situation Before Independence :-

Available agriculture statistics for pre-independence period, though sketchy and defective, indicates that during the first half of this century, agriculture production rose only marginally, as compared to the growth of population. For instance, according to J.P. Bhattacharjee, India's population rose by 38 per cent between 1901 and 1946, but the area of cultivated land rose only by 18 per cent, the average productivity of all crops rose by 13 per cent and of food crops by only 1 per cent. The increase in population had thus overtaken increase in food production by a considerable extent. The common belief held at that time was that there was deterioration in fertility of land and a general decline in efficiency of agricultural practices. This belief was clearly reflected in the conclusions / findings of the Indian Council of Agricultural Research (ICAR) and the Grow More Food Enquiry Committee.

B- Agriculture Situation since Independence :-

With the introduction of economic planning in 1950-51 and with the special emphasis on agricultural development, particularly after 1965 :

- (a) There was steady increase in area under cultivation ;
- (b) There was a steady rise in average yield per hectare, or rise in agricultural productivity; and
- (c) As a result of the increase in area as well as increase in yield per hectare, production

of all agricultural crops recorded a rising trend.

However two points are considered :

First, agriculture production in India – which is the function of area, productivity per hectare and total output –is influenced by a large number of nature- determined rainfall and weather conditions. There are year-to-year variation in area under cultivation, average yield per hectare and total output. Thus the weather factor is also very important factor as well as agricultural inputs and technology on agriculture growth.

Second, the considered period can be conveniently classified into two periods, viz., pre-green revolution period (1950-65) and post- green revolution period (from 1965 to till date).

1- Growth rate in area since 1949-50 :- The table given below brings out the broad growth trends in area under cultivation, despite the fluctuations from year to year because of variation in monsoon and weather conditions. During 1950-65, that_ is during the pre-green revolution period, additional lands were brought under the plough and there was extension of irrigation facilities to barren lands. The annual rate of growth in area under crops during 1950-65 was quite impressive :

All crops : 1.6 %

Foodgrains : 1.4 %

Non-foodgrains : 2.5 %

It is also clear from the table given below that extension of cultivable area before 1964-65 was experienced by all crops, without exception. This means that cultivation was extended to marginal and fallow lands and in many cases, even to waste lands and forest lands. Potato cultivation recorded the highest area- growth rate in this period (4.4 % per year) followed by sugarcane (3.3 per cent per year). Among foodcrops, area under wheat had recorded annual growth rate of 1.7 per cent.

TABLE -7 Growth in area of principal crops since Independence

	In million hectares			Annual growth rate	
	1949-50	1964-65	2000-01	1949-50 to 1964-65	1964-65 to 2000-01
1. All foodgrains	99	118	120	1.4	0.1
of which					
Rice	30	36	44	1.3	0.6
Wheat	10	13	25	1.7	2.0
Coarse cereals	39	44	31	0.9	-1.1
Pulses	20	24	20	1.2	-0.5
2. All non – foodgrains	23	33	38	2.5	0.3
of which					
Oilseeds	10	15	22	2.6	1.1
Sugarcane	1.5	2.6	4.3	2.5	1.4
Cotton	4.9	8.4	8.6	3.3	0.1
Potato	0.2	0.4	1.2	4.4	3.5
3. All crops	122	151	158	1.6	0.1

Source : GOI, Ministry of finance : Economic Survey, 2001-02.

After 1964-65, the scope for extension of cultivation gradually declined. During the post- green revolution period (1965-2001), the annual area growth rate was extremely low :

All crops : 0.1 %
Food grains : 0.1 % and
Non- foodgrains : 0.3 %

During the period 1965-2001, the increase in area under rice was only by 22 per cent while the area under wheat rose by 92 per cent. As a result, the annual rate of growth of area under rice was a mere 0.6 per cent while it was 2.0 per cent for wheat. The extension of area under wheat was clearly due the introduction of bio-chemical technology, but it

was at the expense of coarse cereals and pulses. There has been a shift in cropping pattern between the two periods. The share of wheat in the total cropped area had gone up from 8.5 per cent to 14 per cent, and the share of wheat in irrigated area had gone up from 15 per cent to 38 per cent.

Under non-foodgrains, spectacular progress was achieved by potatoes (increase in acreage during this period by 200 per cent and the annual area growth rate was 3.5 per cent) and plantation crops (increase in acreage by 67 per cent)

2- Rate of growth in yield since 1949-50:- Broadly speaking, the decline in agricultural productivity in general and foodgrains productivity in particular, which was a marked feature before independence and to some extent in the three years following independence was positively reversed with the introduction of planning in 1950-51. With the extension of irrigation and application of intensive methods of cultivation, and after the introduction of modern agricultural practices including the adoption of hybrid seeds, there has been a steady and continuous increase in yield per hectare of all crops. The table given below illustrates the yield growth rates in India since 1949-50.

As monsoon and weather conditions affect average yield per hectare, and therefore, the variation in the yield per hectare reflect not only the effects of improved agricultural techniques but also that of natural factors.

During the pre-green revolution period, rice recorded the most impressive growth rate in yield –from 7 quintals per hectare in 1949-50 to nearly 11 quintals by 1964-65. The annual rate of growth was 2.1 per cent. The yield growth rate of wheat during this period – 1.3 per cent per year –was modest as compared with rice. For instance, yield per hectare in the case of wheat improved from 6.6 quintals in 1949-50 to 9.1 quintals in 1964-65. Among non-foodgrains, cotton and sugarcane recorded modest growth rates during this period.

During the second period, however, the most spectacular growth rate was recorded by wheat (3.2 per cent per annum) potato too recorded an impressive growth rate of 3.1 per cent per year. Per hectare yield of wheat is now 27.4 quintals as compared to only 19.3 quintals in the case of rice. Rice registered a steady annual growth rate of 1.8 per cent in yield. Productivity of coarse cereals rose by 2.2 per cent per year. On the other

hand, pulses recorded a growth rate of 0.1 per cent per year and oilseeds, a mere 1.2 per cent per year. This shows that the new bio-chemical technology was particularly suited to wheat production but was not effective in the case of other crops.

TABLE-8 Growth in yield of principal crops since Independence

Annual Growth Rate (%)					
	1949-50	1964-65	2000-01	1949-50 to 1964-65	1964-65 to 2000-01
1. All foodgrains				1.4	2.4
of which					
Rice (Quintals)	7.1	10.8	19.3	2.1	1.8
Wheat (Quintals)	6.6	9.1	27.4	1.3	3.2
Coarse cereals (Quintals)	4.3	5.1	10.7	1.3	2.2
Pulses (Quintals)	4.0	5.2	5.3	0.2	0.1
2. All non – foodgrains				0.9	1.6
of which					
Oilseeds (Quintals)	5.2	5.6	8.3	0.1	1.2
Sugarcane(Tonnes)34		47	69	1.0	1.2
Cotton (Kgs.)	95	122	191	2.0	1.5
Potato (Quintals)	66	84	180	1.6	3.1

Source : GOI, Ministry of finance : Economic Survey, 2001-02.

2.3 Industrial Development in India :

Industrialisation has a major role to play in the economic development of the underdeveloped countries. The gap in per capita incomes between the developed and underdeveloped countries is largely reflected in the disparity in the structure of their economies, the former are largely industrial economies while in the latter production is confined predominantly to agriculture. The table given below clearly reveals the positive relationship between per capita income and the share of manufacturing output (industry including construction). Undoubtedly, some countries have achieved relatively high per capita incomes by virtue of their fortunate natural resource endowments. Petroleum exporting countries like Saudi-Arabia, Kuwait, and UAR have achieved higher per capita income by exploiting the strong advantage that they enjoy in international trade. But these countries are a rather case.

TABLE -9 Percentage Industrial Distribution of gross Domestic Product and per Capita income (2000)

Country	Per capita income in U.S. Dollar (2000)	Industrial origin of domestic Product at factor cost (percentage)		
		Agriculture	Industry	Services
U.S.A.	34260	02	26	72
Belgium	24630	01	25	73
U.K.	24500	01	25	74
Japan	34210	02	36	62
China	840	16	49	34
India	460	27	27	46

Source : World Bank, World Development Report (2002) and (1996).

INDUSTRIAL DEVELOPMENT ON THE EVE OF PLANNING

Before the rise of modern industrial system Indian manufacturers had a world wide market. Indian muslin and calicoes were in great demand the world over. Indian industries not only supplied all local wants but also enabled India to export its finished

products. Indian exports consisted chiefly of manufacturers like cotton and silk fabrics, calicoes, artistic ware, silk and woolen cloth. The impact of the British connection and industrial revolution led to the decay of Indian handicrafts. Instead, machine made goods started pouring into India. The void created by decay of Indian handicrafts was not filled by the rise of modern industry in India because of the British policy of encouraging the import of manufacturers and exports of raw materials from India.

The British government in India provided discriminating protection to some selected industries since 1923. This protection was accompanied by the most favoured nation-clause for British goods. Despite this factor, some industries such as cotton textiles, sugar, paper, matches and to some extent iron and steel did make progress. But one thing was quite obvious that during the British period no efforts was made to foster the development of capital goods industries. Rather the British government put definite hindrances and cold – shouldered their development. The main features of the industrial pattern in India on the eve of planning (1950) were as under:

(1) Lop-sided pattern of industry : The Indian industrial structure reflected a lop-sided size pattern. The total number of persons employed in manufacturing in mid - 1956 was about 15 million. Out of this, only 3.9 million were employed in factories and 11.1 million in household enterprises and workshops employing less than 10 persons. Out of the total factory employment of 3.9 million persons, 1.2 million or 31 per cent were in small factories, 1.0 million or 26 per cent were in medium factories and 1.7 million or 43 per cent were concentrated in large factories. The peculiarity of the industrial pattern of India was the high concentration of employment either in small factories and household enterprises, i.e., the lowest size group or that there was a high concentration of employment in large factories, i.e., the highest size group. The medium size factories did not develop in India. The existence of this lopsided industrial pattern was due to the colonial nature of our economy. The foreign firms and those owned by big business and industrial magnates were of a very large size coming at the top of the pyramid, and at the bottom were a very large number of indigenous small size firms. The lopsidedness of the industrial pattern was reflected in the absence of the middle entrepreneurs running medium sized firms.

(2) Low Capital Intensity : Another feature of the Indian industrial pattern was the prevalence of low capital intensity. It was the result of two factors – first, the general level of wages in India was low, and second, the small size of the home market in view of the low per capita income and the limited use of mass production (or high capital intensity) techniques resulted in low capital per worker employed.

A comparison of the two sets of figures provided by the United Nations reveals that capital employed per worker was very low in India vis-à-vis U.S.A. Low capital intensity was reflected not only in consumer goods industries like bakery, cloth, sugar, etc., but also in capital goods industries like iron and steel.

(3) Composition of manufacturing output : the composition of manufacturing output reflects the preponderance of consumer goods industries vis-à-vis producer goods industries. In 1953, the ratio of consumer goods to producer goods worked out to be 62:38. According to criteria suggested by Hoffmann India seems to have entered the second stage of industrial development. But even then, there is no doubt that the capital-goods sector is underdeveloped and there is a need for the expansion of this sector so as to ensure a rapid rate of growth to make the economy self-reliant and ultimately foster the pace of industrialisation in the country. Only then can per capita income be pushed up at a fast rate.

In short, the industrial pattern in India on the eve of planning was marked by low capital intensity, limited development of medium sized factory enterprises and imbalance between consumer goods and capital goods industries. Yet during the five year plans efforts were made to improve the industrial pattern, correct its lopsidedness and capital goods sector.

INDUSTRIAL DEVELOPMENT DURING THE FIVE-YEAR PLANS

The Government of India launched the process of industrialisation as conscious and deliberate policy of economic growth in early fifties. The Government made efforts to uplift the process of industrialisation during the period of five-year plans which are as follows :

(A) Industries and First Five-Year Plan (1951-56)

During the first plan itself, no big efforts was contemplated to industrialise the economy; Rather the emphasis was to build basic services like power and irrigation so that the process of industrialisation is facilitated. A total investment of about Rs 800 crores was planned for industry, out of which investment in the public sector was to be of the order of Rs 94 crores only.

Actual public sector out lay was only about Rs. 57 crores and on new projects, replacement and modernisation only Rs. 340 crores were actually spent. Thus, there was shortfall in the investment programmes. Despite the fact that the first plan only aimed to utilize the existing capacity to the full, the general index of industrial production recorded an increase of 39 per cent during the plan, or a compound annual growth rate of 7 per cent. This was no mean achievement.

(B) Industries and Second Five-Year Plan (1956-61)

The second Five –Year Plan programme for industrialisation was based on the industrial policy Resolution of 1956 which envisaged a big expansion of the public sector. A base of heavy industry was sought to be created. The actual investment in the public sector on organized industry was Rs. 870 crores. Private sector investment was Rs . 675 crores during the second plan period—more than envisaged in the plan. Similarly, investment in village and small industries was Rs. 265 crores (in both public and private sector). Taken together, total investment in industries was Rs. 1810 crores, i.e., 27 per cent of the total investment during the Second plan.

During the second plan a major task in industry was the building up of three steel plants in the public sector; Rourkela Steel Plant in Orissa, Bhilai Steel Plant in Madhya Pradesh and Durgapur Steel Plant in West Bengal. The other programmes of industrial development included the manufacturer of electrical equipment, expansion of Hindustan Machine Tools, expansion of Sindri Fertiliser factory and the establishment of a Fertiliser plant at Nangal, further expansion of Hindustan Shipyard and Chittaranjan Locomotive factory.

The second Plan witnessed a major diversification of the industrial spectrum. It strengthened further the programmes of development in respect of oil exploration and coal and made a beginning with the development of atomic energy.

Most of the investment in the Second Plan were in heavy and basic industries. There was also rapid expansion of machine-building industries for use in agriculture and transport and for such industries as chemicals, textile, jute, cement tea, sugar, flour and oil mills, paper, mining etc. Good progress was also recorded in modernisation and re-equipment of important industries such as jute, cotton, textile and sugar. Quite a number of new industrial items, e.g. industrial boilers, milling machines, tractors, motor cycles, scooters etc., were also produced in large quantity.

In the sphere of village and small industries, substantial progress was recorded. About 60 industrial estates comprising 1,000 small factories were set up. The period also witnessed the rise of a vigorous class of small entrepreneurs. In a number of items such as machines, electric motors, fans bicycles, hand tools etc. production increased from 25 to 50 per cent during the five-year period. Khadi, handloom and powerloom cloth production increased from 1,610 million metres to 2,150 million metres.

(C) Industries and Third Five-Year Plan (1961-66)

The third Plan saw the beginning of long-term perspective planning as an instrument to achieve the objective of an integrated growth of industry balanced with agriculture. With the base created in the first two plans, the Third Plan called for the maximum rate of investment to (a) strengthen industry, power and transport and (b) hasten the process of industrial and technological change.

The overall financial outlay in organized industries and mining during the Third Plan period was Rs. 3,000 crores, out of which the outlay in the public sector was about Rs. 1,700 crores and that in the private sector Rs. 1,300 crores.

The key role in industrial development programme was for the public sector. The aim was to make the economy self-sustaining in producers' goods industries such as steel, machine building, etc., so that the quantum of external assistance needed could be curtailed to a very low level. An overall target of 70 per cent increase in industrial production was envisaged in the plan.

Except for the year 1965-66, industrial output increased steadily at the rate of 7.6 per cent per annum. The achievement was lower than the average of 14 per cent per annum visualized in the plan. Although the increase in the output of producer and basic industries was higher than the actual growth in the general index of production, yet it was much lower than the target set out in the Third Plan.

Despite the overall under-achievement of targets the Third Plan reflected the first stage of a decade or more of intensive development leading to a self-reliant and self-generating economy. Engineering industries like automobiles, cotton textile machinery, diesel engines, electric transformers and machine tools, advanced according to set-targets as did industries such as petroleum products, heavy chemicals, cement etc. Mining and extractive industries also showed considerable progress. It was during this period that a fairly sound base for future industrial growth was laid through the completion of projects of the HEC for manufacture of machinery and equipment for steel plants, the MAMC for the production of mining equipment and Bharat Heavy Electricals for power generation and transmission equipment.

(D) Industries and Fourth Five-Year Plan (1969-74)

The Fourth Plan intended to complete industrial projects undertaken in the Third Plan. It also aimed to enlarge capacities in export promotion and import substitution industries.

During the Fourth Plan, a total investment of Rs. 3,050 crores was to be made in the public sector. Besides this, investment in small and village industries in the public sector was planned to be of the order of Rs. 190 crores. However, the actual outlay on organized industry was of the order of Rs. 2,700 crores in the public sector. Thus, the financial investment was short of the targets set out in the Fourth Plan. Nearly three-fourths of the total investment was in the core sector, viz., iron and steel, non-ferrous metals, fertilisers, petroleum and petro-chemicals, coal and iron ore.

The performance in industry was far short of even the modest targets set out in the Fourth Plan. On an average, the growth rate in industry was around 5 per cent which was much below targeted growth rate of 8 per cent envisaged in the Plan.

(E) Industries and Fifth Five-Year Plan (1974-78)

Programme of industrial development in the fifth Plan were formulated keeping in view the objectives of self-reliance and growth with social justice. The Plan proposed to lay emphasis on the following :

- (1) Rapid growth of core sector industries by giving high priority to steel, non-ferrous metals, fertilisers, mineral oils, coal and machine building.
- (2) Development of industries which promise a rapid diversification and growth of exports.
- (3) Enlarging the production of industries supplying mass consumption goods, viz., cloth, edible oil and vanaspati, sugar, drugs, bicycles.
- (4) Restraint on the production of inessential goods, except for exports.
- (5) Development of small industries by reserving 124 items exclusively for them and by initiating an intensive programme for the development of ancillary industries as feeder industries to large-scale units.

The revised Fifth Plan provided a total outlay of Rs. 10,135 crores on organized industry and mining—Rs. 9600 crores in the public sector and Rs. 535 crores for village and small industries. This accounted for nearly 26 per cent of the public sector outlay of the Fifth Plan.

Against the targeted annual rate of 8.1 per cent in the industrial sector, the actual annual industrial growth rate was only 2.5 per cent during 1974-75 and 5.7 per cent during 1975-76. In order to stimulate industrial production during the remaining years of the plan, the Revised Fifth Plan took many bold steps such removing the restriction on the private sector, monopolistic undertaking and foreign concerns seeking investment in India. Despite all these incentives, the average annual industrial growth was of the order of 5.3 per cent during 1974-75 to 1977-78—much below the target.

(F) Industries in the Sixth Plan (1980-85)

The Sixth Plan (1980-85) intended to work within the overall developmental strategy particularly with regard to the objectives of structural diversification, modernisation and self-reliance. The other element of policy included the following:

- (a) To meet foreign exchange requirements, export of engineering goods and industrial products, as also project exports would be stepped up.
- (b) A judicious blend of permitting import of contemporary technology and promoting the development of indigenous know-how through domestic research and development.
- (c) New strategies for development of backward region would be devised. The thrust would be to implement a new model of development which would prevent concentration of industry in existing metropolitan areas.

The overall outlay envisaged in the Sixth Plan on industry and minerals including village industry was Rs. 22,200 crores, i.e., 22.8 per cent of the total outlay of the Sixth Plan. Besides this, for the development of energy programme, Rs 4300 crores were to be spent on petroleum and Rs. 2870 crores on coal industry.

A review of the progress of the industrial growth during the Sixth Plan reveals that as against the target of 7 % growth in industrial production, the growth rate achieved, however, was only 5.5 per cent. This was lower than the trend growth rate of 6 per cent witnessed in the earlier three decades.

(G) Industries in the Seventh Plan (1985-90)

In consonance with the guiding principles of the Seventh Plan, viz., to achieve growth with social justice, and improving productivity, the objectives of the development programmes in the industrial sector were:

- (1) To ensure adequate supply of wage goods and consumer articles of mass consumption at reasonable prices and of acceptable quality;
- (2) To maximise the utilization of the existing facilities through restructuring, improved productivity and upgradation of technology;
- (3) To concentrate on development of industries with large domestic market and export potential to emerge as world leaders in them;
- (4) To usher in 'sunrise' industries with high growth potential and relevance to our needs; and
- (5) To evolve an integrated policy towards self-reliance in strategic fields and opening up of avenues for employment of skilled and trained manpower.

The Seventh Plan provided for an investment of Rs. 19,710 crores in large and medium industries and Rs. 2,750 crores for the development of village and small industries. Total investment in the industrial sector would thus be of the order of Rs. 22,460 crores or 12.5 % of the total Plan outlay. The annual target growth rate was 8 per cent.

The main elements of the Seventh Plan industrial strategy were:

- (1) Rapid removal of infrastructural constraints, by placing greater emphasis on additional availability of power through more efficient use of existing capacity as well as the establishment of new power stations including super thermal and nuclear Plants.
- (2) Encouragement of modernisation and technological upgradation in industries like textiles and sugar where a large number of units were set up in the early part of the 20th century.
- (3) Specific targets of productivity for major industries like steel, fertilisers, non-ferrous metals, petro-chemicals, paper and cement were to be set for the Plan.
- (4) Export production was to be made as integral part of production in the domestic economy. A special effort was to be made in selected industries in which the country has comparative advantage and has reached a degree of industrial maturity.
- (5) Encouragement of 'sunrise' industries such as tele-communications, computers, micro-electronics, ceramic composites and bio-technology. Industries were to be encouraged to adopt technologies like fiber optics, lasers, robotics etc., for enhancing productivity and quality.
- (6) Location of industries near the small district towns which were not industrialized so far would be promoted with a view to removing regional disparities and encouraging dispersal of industries.

A review of the process of the Seventh Plan reveals that the annual growth rate of the industrial sector including mining, manufacturing and electricity generation during the Seventh Plan period was 8.5 per cent which though marginally lower than targeted 8.7 % was much higher than the 3.5 % achieved during the Sixth Plan.

(H) Industries in the Eight Plan (1992-97)

The Eight Plan was formulated under a new environment when a number of reforms in industrial, fiscal, trade and foreign investment policies were introduced in the economy—commonly called as economic liberalisation. In this background, there was emphasis on quantitative targets and planning had become more “indicative”. Eight Plan believed that the desired growth of different sector could be achieved primarily through modification in industrial, trade, fiscal policies and changes in duties and taxes rather than through quantitative restrictions in imports/exports or licensing mechanism.

In the context of the new Industrial Policy of July 1991, the role of the public and private sector was reviewed. In the initial phase of planned development the public sector played a pioneering role but its principal weakness was its extremely poor performance and its inability to generate adequate resources for sustaining the growth process. During, this period, the private sector has come of age and has developed considerable entrepreneurial, managerial, technological, financial and marketing strength. Thus, the private sector should henceforth play a greater role in the process of development. This new approach is consistent with the general philosophy of placing greater reliance on competitiveness of industries and efficiency of operations. Future growth would, therefore, be more in those sectors where the country has comparative cost advantage.

Eighth Plan allocated a total investment of Rs. 38,083 crores for industry and mineral production (at 1991-92 prices).

The overall rate of industrial production increased from 2.3 per cent in 1992-93 to 6.0 per cent in 1993-94, 9.4 per cent in 1994-95 and a respectable 12.1 per cent in 1995-96. The year 1996-97 witnessed lower growth rate in all sub-sectors of the industry. Thus industrial production slumped to 7.1 per cent in 1996-97, resulting in an average growth rate of 7.3 per cent against the target of 7.4 per cent in the Eighth Plan.

(I) Industries in the Ninth Plan (1997-99)

During the first three years of the Ninth Plan, industrial production which slumped to 4.0 per cent in 1997-98 has recovered to 8.0 per cent in 1999-2000.

Table 10- Sector wise Industrial Growth Rate in the Eight Plan and Ninth Plan

Year	Manufacturing	Mining	Electricity	General
8 th Plan Target	7.30	8.00	7.80	7.40
1992-93	2.18	0.53	5.02	2.30
1993-94	6.07	3.50	7.45	6.00
1994-95	9.80	7.47	8.48	9.40
1995-96	13.00	7.07	8.17	12.10
1996-97	8.00	1.20	3.80	6.80
Realised Growth rate	7.80	3.80	6.50	7.30
1997-98	6.70	5.90	6.60	6.60
1998-99	4.30	-1.70	6.50	4.00
1999-2000	9.00	0.68	6.60	8.00

Source : Planning Commission, Ninth Five Year Plan (1997-2002) and Economic Survey, 1999-2000.

Steps taken by the Government for the Industrial Development through various Industrial Policies :

After, independence, the first Industrial Policy was declared on April 6, 1948 by then Union Industry Minister Mr. Shyama Prasad Mukherjee. This Policy established a base for Mixed and Controlled Economy in India and clearly divided the Industrial sector in to private and public sectors. Later on 1948 Industrial Policy was replaced by a new Industrial Policy Resolution declared on April 30, 1956 with the basic objective of establishing 'Socialistic Pattern of Society' in the country. Though the Government had declared a number of new industrial policies after 1956, but every new policy accepted the 1956 Industrial Policy Resolution as its base. In June, 1991, Narsimha Rao Government took over charge and a wave of reforms and liberalisation was observed in the economy. In this new atmosphere of economic reforms, the Government declared broad changes in Industrial Policy on July 24, 1991. The Industrial Policy initiatives undertaken by the Government since July 1991 have been designed to build on the past Industrial achievements and to accelerate the process of making Indian industry internationally competitive. It recognises the strength and maturity of the industry and

attempts to provide the competitive stimulus for higher growth. The new policy exempted all industries other than 18 prime industries from license restrictions. Later on 13 more new industries were exempted from license restrictions which left this number to only 5 under the purview of industrial licensing. The Government continued with industrial reforms in 2000-2001. Coal and lignite, petroleum (other than crude) and its distillation products, bulk drugs and sugar were delicensed. At present only 5 items of health, strategic and security considerations remain under the purview of industrial licensing. New Industrial Policy totally eliminated capital ceiling prescribed under MRTP Act. Till December 1996, foreign capital investment ceiling in 48 high priority industries was to 51 %. The Government has permitted Foreign capital investment ceiling to be 50 % in 3 mining based industries and 74 % in 9 other industries. The Foreign Institutional Investors (FIIs) can now invest 10 % to a company's capital in unlisted companies other than these industries. This process of amending industrial policy is still continued.

The details of salient reforms introduced in the industrial sector are as follows—

1. On March 26, 1993, 13 minerals which were reserved earlier for public sector, were opened for private sector. As a result only 4 industries remained reserved for public sector. They were—
(1) Defence, (2) Atomic Energy, (3) Railways (4) Minerals specified in schedule of Atomic Energy Act, 1953.
2. Excise duty on capital goods was made moderate. Also import duty was reduced to promote investment and to curtail capital investment cost.
3. During 2001-2002 CENVAT structure was rationalized .
4. During 2001-2002 budget, preparations based on fruits & vegetables were completely exempted from excise.
5. In 2000-2001 budget, Five years tax holiday was granted for new industries established in industrially backward states and Union Territories. This facility was also provided for power projects established in any part of the country.
6. Export credit refinance limits were extended. 90 % of refinance credit is now available in U.S. dollars.
7. To provide more funds with commercial banks for granting credit CRR and SLR have been reduced.

8. The minimum interest rate limit prescribed for loans of more than Rs. 2 lakh has been abolished.
9. Sick Industrial Companies Act 1985, has been amended in December 1993 to find out company's sick-ness at an early stage itself and to take preventive steps to check it.
10. Industrial licensing for all bulk drugs has been abolished.
11. Private sector participation and foreign investment have been permitted in infrastructure telecommunication sector.
12. Investment limit in a company by Foreign Institutional Investors, NRIs and NRIs foreign companies has been extended from 24 % to 49%. (But this extended limit must be approved by the Board of Directors of the company.)
13. To promote investment in new enterprises, enterprise capital funds were permitted to invest its 20 % of saved and collected amount.(Earlier this limit was 5 %.)

The Government took many new steps for modifying industrial policy measures, important among which are as follows :

1. The Government continued with industrial reforms in 1998-99, coal and lignite and mineral oils were also removed from the list of industries reserved for the public sector.
2. To provide a strong stimulus to the infrastructure sector, boost industrial growth and accelerate overall economic activity, the Union Budget substantially increased allocations for energy, transport and communications.
3. A number of items including some farm implements and tools have been removed from the products reserved for SSI sector.
4. The prevailing customs tariff structure was revised to provide a level playing field to the domestic industry.

New policy for Small Industries

After declaring Industrial Policy in July 1991, the Government announced its policy towards the small scale sector on 6th August 1991. Under this policy, investment limit for tiny units have been increased from Rs. 2 lakh to Rs. 5 lakh, irrespective of location of the unit. The Government again extended this limit to Rs. 25 lakh accepting the recommendations of Abid Hussain Committee.

The Government, in its industrial policy of July 1991, has already announced increases in investment limits in plant and machinery of small scale industries, ancillary units and export oriented units to Rs. 60 lakh, 75 lakh and 75 lakh respectively. Again on Feb. 7, 1997 this limit was extended to Rs. 3 crores for all such industrial units. Any rebate to ancillary units and export oriented units was abolished.

On Feb. 17, 1999 the Union Government has reduced the investment limit in plant and machinery of small scale units from Rs. 3 crores to Rs. 1 crore. The investment ceiling for tiny units remained unchanged at Rs. 25 lakh.

In 1996-97 budget proposals, the Finance Minister had proposed that SIDBI should provide refinance facilities to State Finance Corporations (SFCs) and commercial Banks. The refinance facility was available under single window scheme of SFCs upto loan limits of Rs. 50 lakh which was extended upto Rs. 100 lakh in 1996-97 budget.

Keeping in view the extended investment limits, the credit policy declared on April 16, 1997, gave a clear direction to commercial banks to provide 40 % of available funds to such small industries which have investment upto Rs. 5 lakh in plant and machinery. Further, directions were given to allocate 20 % of available resources to industries having investment between 5-25 lakh and 40 % to the remaining industries.

Recognizing the importance of small scale sector, in the Union Budget for 1998-99, the exemption limit for excise purpose available to small industrial undertakings was raised from Rs. 30 lakh to Rs. 50 lakh. The budget also provided for a flat nominal rate of 5 % excise for clearance between Rs. 50 lakh and Rs. 100 lakh.

The Union Budget 1999-2000 also declared a set of measures for the small scale sector including enhancement of eligibility limit for excise exemption, a new credit insurance scheme, extension of the scope of priority lending for the SSI sector.

2.4 Plans made by the Government of India for solving the problem of Unemployment & poverty :

Unemployment in India:- India is an under-developed though a developing economy. The nature of unemployment, therefore sharply differs from the one that prevails in industrially advanced countries. Lord Keynes diagnosed unemployment in advanced economies to be the result of a deficiency of effective demand. It implied that in such economies machines become idle and demand for labour falls because the demand for the products of industry is no longer there. Thus Keynesian remedies of unemployment concentrated on measures to keep the level of effective demand sufficiently high so that economic machine does not slacken the production of goods and services.

This type of unemployment caused by economic fluctuations did arise in India during the depression in the 1930's which caused untold misery. But with the growth of Keynesian remedies, it has been possible to mitigate cyclical unemployment. Similarly, after the second World War, when war-time industries were being closed, there was a good deal of frictional unemployment caused by retrenchment in the army, ordnance factories, etc. These workers were to be absorbed in peacetime industries. Similarly, the process of rationalization which started in India since 1950, also caused displacement of labour. The flexibility of an economy can be judged from the speed with which it heals frictional unemployment.

But more serious than cyclical unemployment or frictional unemployment in India is the prevalence of chronic under-employment or disguised unemployment in the rural sector and the existence of urban unemployment among the educated classes. But unemployment in India is not the result of deficiency of effective demand in the Keynesian sense, but a consequence of shortage of capital equipment or other complementary resources.

Unemployment Estimates in India is regarded as, a person working 8 hours a day for 273 days of the year is regarded as employed on a standard person year basis, otherwise unemployed. On the basis of the recommendations of the Committee of Experts on Unemployment Estimates set up by the Planning Commission, three estimates of unemployment were generated in the 27th Round of NSS.

1- Chronic unemployment or 'usual Principal status employment':- is measured in number of persons i.e., persons who remained unemployed for a major part of the year. This measure is more appropriate to those in search of regular employment e.g. educated and skilled persons) who may not accept casual work. This is also referred to as 'open unemployment'.

2- Weekly status unemployment :- measured in number of persons), i.e. persons who did not find even an hour of work during the survey week.

3- Daily status unemployment :- measured in person days or person years, i.e. persons who did not find work on a day or some days during the Survey week.

An important objectives of development planning in India has been to provide for increasing employment opportunities not only to meet the backlog of the unemployed but also the new addition to the labour force. The increasing diversification of the economy together with acceleration in economic growth has resulted in structural changes in the nature of the job market. Economic reforms in the area of abolishing quantitative restrictions, reducing tariffs, reforming labour laws and abolishing SSI reservations have aimed at fostering labour-intensive production in India.

The various Rounds of Surveys conducted by National Sample Survey Organisation reveal that the average annual growth rate of overall employment (in both the organised and unorganised sectors) was 2.73 per cent per annum in the period 1972-73 to 1977-78 but declined to 1.54 per cent per annum in 1983 to 1987-88. However, the growth rate of employment increased to 2.43 per cent per annum over 1987-88 to 1993-94. As per the 55th Round (July 1999-June 2000) of the Survey on Employment conducted by NSSO, overall employment grew by about 1 per cent per annum during 1993-94 to 1999-2000.

According to a general survey done by the National Sample Survey Organisation (NSSO), 62 % of total unemployment exists in rural sector and only 38 % in urban sector of our country. In the beginning of Planning in the country the Government did not pay heed to the solution of unemployment problem, but it was given serious attention during the 4th plan. Eight Five Year Plan allocated Rs. 30,000 crore for rural development and it was increased to Rs. 42874 crore for the 9th Five Year Plan. 10th Plan also has sufficient allocation for rural development.

The programmes that were especially adopted under the Fourth plan included Small Farmer Development Programme (SFDA), Marginal Farmer and Agriculture Labour Agency (MFALA), Drought-Prone Area Programme (DPAP), and Crash Scheme for Rural Employment.

In the Fifth Plan Food for Work Programmes and Minimum Needs Programme were launched. All these Programmes were aimed at the poorest people of the rural areas. These programmes were designed to provide financial support and secondly, to create direct employment opportunities for poorest farmers and labourers in various public works projects. During the ruling period of Janta Dal, Antyodaya Programme was started in 1977-78 to give opportunities of productive employment to the maximum number of people in the society, so that they may come out from the vicious circle of poverty.

During the Sixth plan, in 1980, the Government started the National Rural Employment Programme (NREP) in place of Rural Labour Force Programme such as Crash Plan and Food for Work Plan. The main aim of this programme was to increase the beneficial employment opportunities, to construct stable community property and to uplift the food standard of the rural poor.

In order to remove the unemployment among the rural youth 'TRYSEM' (Training to Rural Youth for Self- Employment) plan was started in 1979. In, 1983, Rural Landless Employment Guarantee Programme (RLEGP) was started to remove the rural poverty and unemployment especially at that time when no work is available.

At the end of the Seventh Plan, the Government started the Jawahar Rozgar Yojana in 1989, which was made more extensive by combining NREP and RLEGP.

Since 2 October, 1993, the Government implemented the Employment Assurance Scheme (EAS).

On 1 January, 1996, a new self –employment Programme was started in the rural areas in which provision was made to provide 50% subsidy (maximum Rs. 7500) for self- employment to unemployed youth having education upto 8th standard.

Since Feb. 1, 1997, the Government introduced Ganga Kalyan Yojana as a sub-scheme of IRDP but was given the status of an independent scheme w.e.f. April 1, 1997. In 1999-2000 budget, the Government has introduced Annapurna Yojana for providing 10 kg. free foodgrains to eligible old people.

Poverty in India:-

Poverty is a social phenomenon in which a section of the society is unable to fulfil even its basic necessities of life. The countries of the third world exhibit invariably the existence of mass poverty, although poverty also exists even in the developed countries of Europe and America.

The term 'poverty' has been defined in different societies in different ways but all of them are conditioned by the version of minimum or good life to be obtained in society.

Several economists and organizations have given different estimates of poverty. Most of them estimated the number of persons below the poverty line on the basis of an average calorie intake of 2250 per capita per day. According to the report of 'Task Force on Minimum Needs and Effective Consumption Demand' - an expert group of planning commission, defined poverty line on a nutritional norm of per capita daily intake of 2400 calories in rural areas and 2100 calories for urban areas. A person who fails to obtain this minimum level of calories is treated as being below the poverty line.

The identification process of persons below the poverty line has been put to a controversy for the last few years. Planning Commission adopted the survey of NSSO as a basis for defining poverty line and determining the number of persons below it. On the basis of this criteria planning commission estimated 18.96% of the total population below the poverty line for the year 1993-94. The expert group under the chairmanship of Prof. D.T. Lakadawala (appointed by Planning Commission which submitted the report in July 1993) found earlier estimates of poverty unreliable and suggested an alternate approach for identifying poor in which different poverty line was determined for different states on the basis of price level of that particular state.

Lakadawala expert group suggested that it will be most suitable to rely on the disaggregated commodity indices for Consumer Price Index for Agricultural Labourers (CPIAL) to update the rural poverty line and a simple average of suitably weighted commodity indices of Consumer Price Index for Industrial Workers (CPIIW) for updating urban poverty line.

Adopting this approach the expert group suggested 32 different poverty lines for all different states.

The incidence of poverty expressed as percentage of people below the poverty line is observed to have declined from 56.4% in 1973-74 to 37.3 %in 1993-94 in rural areas and from 49 % to 32.4 % in urban areas. For the country as a whole, the percentage of people below the poverty line declined from 54.9% in 1973-74 to 36% in 1993-94 and 26.1 % in 1999-2000.

Apart from an indicative target of an 8 per cent average GDP growth rate, specific monitorabe targets for key indicators have been finalized for the Tenth Plan (2002-07) and beyond. One of these pertains to the reduction in poverty ratio by five percentage points by 2007 and by 15 percentage points by 2012. The poverty reduction target set by the Planning Commission for the Tenth Five Year Plan aims at achieving a poverty ratio of 19.3 per cent for the country as a whole by 2007, 21.1 per cent for the rural, and 15.1 per cent for the urban areas.

The Government of India is very cautious towards solving the problem of unemployment and poverty. From the very beginning of the Planning Period the Government launched so many programmes to uplift the socio and economic conditions of the society, so that the problem of unemployment and poverty may be solved. However there is series of such development , employment generating and poverty elimination programmes which the Government of India has introduced during the Planning Periods. Such programmes at a glance are as follows:

Various Employment Generating, Poverty Eliminating and Development Programmes –(At a Glance)

S.N.	Programme/Plan/Institution	Year of beginning	Objective/Description
1	Community Development Programme (CDP)	1952	Over-all development of rural areas with people's participation
2	Intensive Agriculture Development Programme (IADP)	1960-61	To provide loan, seeds, fertilizer Tools to the farmers
3	Intensive Agriculture Area Programme (IAAP)	1964-65	To develop the Special harvests
4	Credit Authorisation Scheme (CAS)	Nov. 1965	A scheme of Qualitative Credit Control of Reserve Bank
5	High Yielding Variety Programme (HYVP)	1966-67	To increase productivity of foodgrains by adopting latest varieties of inputs for crops
6	Indian Tourism Development Corporation (ITDC)	October 1966	To arrange for the construction of Hotels and Guest houses at Various places of the country
7	Green- Revolution	1966-67	To increase the foodgrains, specially wheat production
8	Nationalisation of 14 Banks	July 1969	To provide loans for agriculture, Rural development and other priority sectors.
9	Rural Electrification Corporation	July 1969	Electrification in rural areas
10	Housing and Urban Development Corporation	April 1970	Loans for the development of housing and provision of resources or technical assistance
11	Scheme of Discriminatory Interest Rate	April 1972	To provide loan to the weaker sections of the society at a concessional interest rate of 4%

12	Employment Guarantee Scheme of Maharashtra	1972-73	To assist the economically weaker sections of the rural society
13	Accelerated Rural Water Supply Programme (ARWSP)	1972-73	For providing drinking water in the villages
14	Drought-Prone Area Programme (DPAP)	1973	To try an expedient for protection from drought by achieving environmental balance and by developing the ground water
15	Crash Scheme for Rural Employment (CSRE)	1972-73	For rural employment
16	Marginal Farmer and Agriculture Labour Agency (MFALA)	1973-74	For technical and financial assistance to marginal and small farmers and agricultural labour
17	Small Farmer Development Agency (SFDA)	1974-75	For technical and financial assistance to small farmers
18	Command Area Development Programme (CADP)	1974-75	To ensure better and rapid utilization of irrigation capacities of medium and large projects
19	Twenty Point Programme (TPP)	1975	Poverty eradication and raising the standard of living
20	National Institution of Rural Development	1977	Training, investigation and advisory Organisation for rural development
21	Desert Development Programme (DDP)	1977-78	For controlling the desert expansion and maintaining environmental balance
22	Food for Work Programme	1977-78	Providing foodgrains to labour for the works of development

23	Antyodaya Yojana	1977-78	To make the poorest families of the village economically independent (only in Rajasthan State)
24	Training to Rural Youth for Self Employment (TRYSEM)	August 15 1979	Programme of training to rural youth for self-employment
25	Integrated Rural Development Programme (IRDP)	October 2 1980	All- round development of the rural poor through a programme of asset endowment for self-employment
26	National Rural Employment Programme (NREP)	1980	To provide profitable employment opportunities to the rural poor
27	Development of Women and Children in Rural Areas (DWCRA)	September 1982	To provide suitable opportunities of self-employment to the women belonging to the rural families who are living below the poverty line
28	Rural Landless Employment Guarantee Programme(RLEGP)	August 15 1983	For providing employment to landless farmers and labourers
29	Self-Employment to the Educated Unemployed Youth (SEEUY)	1983-84	To provide financial and technical assistance for self-employment
30	Farmer Agriculture Service Center's (FASC'S)	1983-84	To popularise the use of improved agricultural instrument and tool kits
31	National Fund for Rural Development (NFRD)	February 1984	To grant 100% tax rebate to donors and also to provide financial assistance for rural development projects
32	Industrial Reconstruction Bank of India	March 1985	To provide financial assistance to sick and closed industrial units for their reconstruction

33	Comprehensive Crop Insurance Scheme	April 1, 1985	For insurance of agricultural Crops
34	Council for Advancement of people's Action and Rural Technology (CAPART)	September 1, 1986	To provide assistance for rural prosperity
35	Self- Employment Programme for the Urban Poor (SEPUP)	September 1986	To provide self-employment to urban poor through provision of subsidy and bank credit
36	Service Area Account (SAA)	February 1988	A new credit policy for rural areas
37	Formation of Securities and Exchange Board of India (SEBI)	April 1988	To safeguard the interest of investors in capital market and to regulate share market
38	Tourism Finance Corporation of India (TFCI)	1989	To arrange the finance for the scheme related to tourism
39	Jawahar Rozgar Yojana	April 1989	For providing employment to rural unemployed
40	Nehru Rozgar Yojana	October 1989	For providing employment to urban unemployed
41	Agriculture and Rural Debt Relief Scheme (ARDRS)	1990	To exempt bank loans upto Rs. 10,000 of rural artisan and weavers
42	Scheme of Urban Micro Enterprises (SUME)	1990	To assist the urban poor people for small enterprise
43	Scheme of Urban Wage Employment (SUWE)	1990	To provide wages employment after arranging the basic facilities for poor people in the urban areas where population is less than one lakh

44	Scheme of Housing and Shelter Upgradation (SHASU)	1990	To provide employment by the means of shelter upgradation in the urban areas where population is between 1 to 20 lakhs
45	National Housing Bank Voluntary Deposit Scheme	1991	To utilise black money for constructing low cost housing for the poor
46	National Renewal Fund (NRF)	February 1992	To protect the interest of the employees of Public Sector
47	Supply of Improved Toolkits to Rural Artisans	July 1992	To supply modern toolkits to the rural craftsmen except the weavers, tailors, embroiders and tobacco labourers who are living Below the poverty line
48	Employment Assurance Scheme (EAS)	October 2 1993	To provide employment of at least 100 days in a year in villages
49	Members of Parliament Local Area Development Scheme (MPLADS)	December 23, 1993	To sanction Rs. 1 crore per year to every Member of Parliament for various development works in their respective areas through DM of the district.
50	Scheme of Infrastructural Development in Mega Cities (SIDMC)	1993-94	To provide capital through special institutions for water supply, sewage, drainage, urban transportation, land development and improvement of slum projects undertaken in Mumbai, Kolkata, Bangalore, Chennai and Hyderabad

51	Scheme of Integrated Development of Small and Medium Towns	Sixth Five Year plan	To provide resources and create employment in small and medium towns for prohibiting the migration of population from rural areas to big cities
52	District Rural Development Agency (DRDA)	1993	To provide financial assistance for rural development
53	Mahila Samridhi Yojana	October 2 1993	To encourage the rural women to deposit in P. O. Saving A/C
54	Child Labour Eradication Scheme	August 15, 1994	To shift child labour from hazardous industries to schools
55	Prime Minister's Integrated Urban Poverty Eradication Programme (PMIUPEP)	November 18, 1995	To attack urban poverty in an integrated manner in 345 town having population between 50,000 to 1 lakh
56	Group Life Insurance Scheme in Rural Areas	1995-96	To provide insurance facilities to rural people on low premium
57	National Social Assistance Programme	1995	To assist people living below the poverty line
58	Ganga Kalyan Yojana	1997-98	To provide financial assistance to farmers for exploring and developing ground and surface water resources
59	Kasturba Gandhi Education Scheme	August 15, 1997	To establish girls schools in districts having low female literacy rate
60	Swarna Jayanti Shahari Rozgar Yojana (SJSRY)	December 1997	To provide gainful employment to urban unemployed and under employed poor through self-employment or wage employment

61	Bhagya Shree Bal Kalyan Policy	October 19, 1998	To uplift the girls conditions
62	Rajrajeshwari Mahila Kalyan Yojana	October 19, 1998	To provide insurance protection to women
63	Annapurna Yojana	March 1999	To provide 10 kg. foodgrains to senior citizens (who did not get pension)
64	Swarna Jayanti Gram Swarozgar Yojana	April 1999	For eliminating Rural poverty and unemployment and promoting self-employment
65	Samagra Awas Yojana	1999-2000	For providing shelter sanitation and drinking water
66	Jawahar Gram Samridhi Yojana (JGSY)	April 1999	Creation of demand driven community village infrastructure
67	Jan Shree Bima Yojana	August 10 2000	Providing Insurance Security to people living poverty line
68	Pradhan Mantri gramodaya Yojana	2000	To fulfil basic requirements in rural areas
69	Antyodaya Anna Yojana	December 25, 2000	To provide food security to poor
70	Ashraya Bima Yojana	June 2001	To provide compensation to labourers who have lost their employment
71	Pradhan Mantri Gram Sadak Yojana (PMGSY)	Dec. 25 2000	To line all villages with Pacca Road
72	Khetihar Mazdoor Bima Yojana	2001-2002	Insurance of Landless Agricultural Workers
73	Shikha Sahyog Yojana	2001-2002	Education of Children below Poverty line

74	Sampurna Gramin Rojgar Yojana	Sep. 25, 2001	Providing employment and food security
75	Jai Prakash Narayan Rojgar Guarantee Yojana	Proposed in 2002-03 Budget	Employment Guarantee in most poor districts.

CHAPTER-III

SOCIAL & ECONOMIC BACKGROUND OF DISTRICT JALAUN

CHAPTER -3

SOCIAL AND ECONOMIC BACKGROUND OF DISTRICT JALAUN:

(A Profile with Major Constraints & Potential)

3.1 District Jalaun :-

Jalaun is one of the promising but, a backward district of religious as well as of historic importance. District Jalaun forms a part of Jhansi division of Bundelkhand region. Though the District is named as Jalaun but the headquarter is Orai, where most of the important Government offices are situated. Orai is situated between Kanpur and Jhansi and lies on the Central Railway Track. The national highway passes from Orai and as such it is well connected with Gwalior and Bombay.

Geographical Situation Of The District :-

The district is triangular shaped, situated between 26° — 27° & 25° — 46° North latitude and 78° — 55° & 79° - 55° Eastern longitude. Jalaun District is surrounded by Etawah and Kanpur District in North East, Jhansi & Hamirpur District in South West, Datia and behind District of Madhya Pradesh in the West. The District is rich in water resources with the flow of Yamuna (North East), Betwa (South West) and Bahuj (West) rivers.

The total physical area of the District is 4569.80 Km. The length from east to west is 80 km. and from North to South 105 Km. An industrial area of 10.70 acres has been developed on the outskirts of Orai town on the National highway and is provided with infrastructural facilities like electricity, water and roadways.

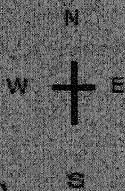
Climate Of The District :-

The climate of District is dry and fluctuates rapidly. The summer months are characterised by intense heat. The maximum and minimum temperature is between 47.8° cel. to 49.2° & 3.1° cel. to 0° cel. Rainfall is caused by 'Monsoon' which is not very certain. Normal rainfall is 864 mm. The soil texture is productive but a part of it rocky.

MAP OF DISTRICT

JALAU

- District Headquarter
- Tehsil
- Town



DISTRICT JALAUN AT A GLANCE :-

S.N.	ITEM	UNIT	PERIOD	DETAIL	RATE(%)
1.	Geographical area	Sq. Km.	1991	4569.80	
2.	Population	No.	2001	1455859	
2.1	Male	-do-	„	788264	
2.2	Female	„	„	667595	
2.3	Villagers	„	„	1164688	
2.4	Urban	„	„	291171	
3.	Educated persons (total)	„	„	809988	66.14
3.1	Male	„	„	526774	79.14
3.2	Female	„	„	283214	50.66
4.	Tehsil	„	2002-03	5	
5.	Samudayik Vikaskhand	„	„	9	
6.	Nayaya Panchayats	„	„	81	
7.	Gram Sabha	„	„	564	
8.	Nagarpalika Parishad	„	„	4	
9.	Nagar Panchyat	„	„	6	
10.	Police Station	„	„	18	
10.1	Rural	„	„	9	
10.2	Urban	„	„	9	
11.	Bus Station/ Bus Stop „	„	„	126	
12.	Railway Station with halt	„	„	8	
13.	Length of Railway line	Km.	„	82	
13.1	Big line	„	„	82	
13.2	Small line	„	„	0	
14.	Post offices	No.	„	244	
14.1	Urban	„	„	30	
14.2	Rural	„	„	214	
15.	Telephone Offices	„	„	12	
16.	Telephone Connections	„	„	21634	

17.	Nationalised Bank with			
	branches	„	„	48
17.1	Other bank with branches	„	„	21
18.	Rural bank branches	„	„	37
19.	Cooperative bank with			
	branches	„	„	18
20.	Agriculture Cooperative &	„	„	04
	Development Bank branches			
21.	Climate		2002	
21.1	Rainfall	m.m.	„	
21.1.1	General	„	„	862
21.1.2	Actual	„	„	550
22.	Temperature	Centigrade	„	
22.1	Highest	„	„	45.7
22.2	Lowest	„	„	2.8
23.	Agriculture	Thousand hectare	01-02	
23.1	Net cultivated/cropped Area	„	„	348
23.2	Area cultivated more than one,,		„	42
23.3	Net irrigated area	„	„	159
23.4	Gross irrigated area	„	„	163
24.	Education	No.	02-03	
24.1	Junior Basic Schools	„	„	1856
24.2	Senior Basic Schools	„	„	481
24.3	Higher Secondary Schools	„	„	128
24.4	Degree Colleges	„	„	07
24.5	Industrial Training Institute	„	„	01
24.6	Polytechnic	„	„	01
25	Public Health			
25.1	Hospitals			
25.1.1	Allopathic	„	„	10
25.1.2	Ayurvedic	„	„	35

25.1.3	Homeopathic	„	„	22
25.1.4	Unani	„	„	2
25.2	Primary Health Centres	„	„	43
25.3	Family & Maternity Child Centres	„	„	13
25.4	Sub-Centres	„	„	230
25.5	Samudayik Swasth Kendra	„	„	4
25.6	Specialized Hospitals	„	„	
25.6.1	Consumption (Asthma)	„	„	1
25.6.2	Leprosy	„	„	1
26.	Veterinary Hospitals	„	„	25
27.	Animal Service Centres	„	„	34
28.	Artificial Insemination Centres	„	„	25
29.	Animal Breeding Centres	„	„	2
30.	Sheep Developing Centres	„	„	4
31.	Poultry Units	„	„	2
32.	Length of metalled Roads	Km.	„	1914
33.	Irrigation	„	2001-02	
33.1	Length of Canals	„	„	1916
33.2	Government tube wells	No.	„	508
33.4	Individual tube wells	„	„	13277
34.	Electric	„	„	
34.1	Total Electric Village	„	„	575
34.2	Electric Nagar	„	„	10

Resource Analyses Of The District :-

For the Economic and Industrial development of any area, the local resources plays an important role. By analyzing the Natural resources , we find out the availability of raw materials for the Industry. On the other hand human resources, which includes not only the Population of that area but also the Education, Technological knowledge, Intellectuality and capacity of Leadership. Human resources also plays an important role in the Industrial as well as Economic development.

(A) Human Resources Of The District :-

The Economic condition of any area is affected by the Industrial development which ultimately depends upon educational, technological development of the human resources. The details of the human resources of the district are as follows:

1- Population Of The District :-

As per Census of 2001 the total population of the District was 14,55,859 out of this 7,88,264 were male and 6,67,595 were female. The density of population was 319 people/ Km. In this year the rural Population was 11,64,688 which is 80 % of the total Population and urban population was 2,91,171 which is 20% of the total Population. The Sex ratio was 847 females per 1000 males.

2- Literacy And Education Of The District :-

Education is one of the most important inputs of development. Both historical and Cross-Sectional studies have revealed the fact that there is a positive Co-relation between education and economic development. Even the Anti-poverty & employment generating programmes sponsored by the Government require a network of right type of educated people to carry them out of their logical conclusion.

As per Census of 2001, total educated persons were 8,09,988 out of this 5,26,744 male and 2,83,214 female. Thus in 2001, 66.14 % of the total population was educated. Male literacy ratio was 79.14 % while female literacy ratio was 50.66 %.

As per Statistical Diary there are as many as (in the year 2002-03) :

Junior Basic Schools	1856
Senior Basic Schools	481
Higher Secondary Schools	128
Degree Colleges	07
Industrial Training Institute	01
Polytechnic	01

Source : Statistical Diary, Jalaun

3- Professional Classification Of The District (1996, CENSUS OF 1991) :-

S.N.	Types of Workers	No. of Workers	% To Total
1	Total Cultivators	199083	55.10
2	Small & Marginal farmers	142948	--
3	Agricultural Labourers	83463	23.10
4	Allied Agricultural Cultivators	2890	0.80
5	Household Cottage Industries	3613	1.10
6	Artisan	9394	2.70
7	Other Workers	62868	17.20
8	Total Workers	361311	--

Source : Statistical Diary, Jalaun

The above figures reveals two important features of agrarian economy of the District. One is that predominantly agricultural economy, and second is that nearly half of the agriculturalist are small & marginal.

Another alarming feature is the decay of cottage and household industries despite ample aid extended by the Government. The figures in 1996 was 13037 but it came down to 3613 engaged in Cottage & Household industries. The question is where did these Cottage & Household workers absorbed or what happened to them.

While working in the field I was told that the Rope making, the Basket making and the Bamboo strips business could not face the competition of Plastic products. Moreover the Crops, through which the raw material or thread like Yarn, better known as 'Sun flex' is no more sown. At the same time Basket or basket making cottage industries dwindled for want of reeds that could not be procured as in most of the parts.

As it is clear from the data mentioned above that the Economy of the District is agrarian as 78.2 % of the total workers are engaged in Agriculture as Cultivator or Agricultural labourers. The percentage of workers engaged in business, trading, Cottage & Small industries is very low, so there is good opportunities of making the working population move towards Cottage, Small & Agro-based industries from the existing working criteria.

Employment Of The District :-

Educated unemployed persons are registered in Employment Office like other District. As per information received from Employment Office, the total number of registered unemployed persons till 30.9.2001 were 18102. Out of this educated females were 1763, ITI trained were 991 and handicapped educated unemployed were 291. In fact the number of educated unemployed persons are much more than what is registered in the Employment Office. So it is clear that this man power may be motivated and trained for self employment, like establishing small, cottage and Agro-based industries.

As the employment generation by the Government is very much low. The growth of vacancies in the Government offices is much less than the growth of population.

Great opportunities of the self employment must be find out so that the problem of unemployment may be solved. As the economy of the District is agrarian, large number of the working population is engaged in agriculture. The marginal productivity of the farmers is very low, some where it is zero and more crucially it is negative too. So the additional working population should be shifted from agriculture to agro—based industries. This step will increase the marginal productivity of the farmer as well as the industrial production of the District.

(B) Physical Resources :-

For the Industrial and Economic development of any area the available resources should be utilized. The physical resources of the District are as follows :

1. Distribution Of Area (Agriculture) In Hectare 2001-02

S.N.	ITEM	AREA (IN HECTARE)	%
1.	Total reported Geographical Area	456213	
2.	Net cultivated/cropped Area	344686	75.55
3.	Area under forest	25701	5.63
4.	Area under fallow land (cultivable)	4060	0.89
5.	Current waste land	23515	5.15
6.	Other fallow and waste land	7333	1.62
7.	Non cultivable land	12966	2.84

8.	Other used land except agriculture	35076	7.69
9.	Pasture	130	0.03
10.	Gardens, Trees and Brushwood area	2746	0.60
11.	Area cultivated more than one time	43563	--
12.	Gross cultivated area	386957	--
13.	Net irrigated area	158607	--
14.	Gross irrigated area	160596	--

2.	<u>Size Of Holdings</u>	<u>No. Of Holdings</u>
(a)	Less than 1 hectare	96959
(b)	Between 1 & 2 hectare	42394
(c)	Between 2 & 3 hectare	20589
(d)	Between 3 & 5 hectare	18802
(e)	5 hectare & above	15529

The above figures shows that nearly half of the area is covered by uneconomic holdings & as such unfit for mechanized farming. These holdings falling under the first category are mostly owned by poor people.

Animal Wealth -

The size of Animal-wealth in the District is large. As per the Animal census of 1998 the total number of Animals was 7,17,146. In the same year the total number of Cockscomb was 53868. The detail is as under:

1.	Cow family	2,43,108
2.	Buffalo family	2,17,850
3.	Sheep	35,317
4.	He-goat & She-goat	1,94,373
5.	Horse & Pony	286
6.	Pig & Swine	24,058
7.	Other animals	<u>2,154</u>
Total animals		7,17,146

1.	Hen and Cock	52,852
2.	Other Cockscomb	<u>1016</u>
	Total	53,868

As per the Animal census of 1998 in 1 rear near about 36 thousand big skins and 23 thousand small skins were found from dead animals. But these skins are not used locally but are marketed to Kanpur and Agra. Similarly in one year nearly two thousand M.T. bone is found, which is used in bone mill.

Sheep/Goat/Piggery Development :-

As the grazing grounds are disappearing, bushes and wild vegetative like 'Babools' are being removed. These professions are rarely been carried on. They were not very popular in the past & with more & more difficulties are forth coming; that's why these professions have nearly disappeared, save a few villages. Though there is vast potential for goat rearing & Government has launched "special Goat Development Scheme" & substantial aid amounting to Rs. 10,000/- per unit has been recommended, but no real success could be achieved. Only some fraudulent people have taken advantage of the scheme & that too seemed to be mere jugglery and no more than that.

Piggery Development :-

There are some scheduled class & backward class people who have some successful rearing of 'Pig Farms' in private sector. Seeing their success the demand for piggery development has increased in the District, but these pigs are later on exported outside the District. With the increasing demand it would be beneficial to make necessary arrangements for purchase of pigs for Commercial Units.

Poultry Development :-

Though the climatic conditions are not so well as to suit poultry development, yet for the supply of eggs & chicks in the District at least one Commercial farm should be established in the District. There is a private farm on Kalpi road, but it seems it has been abandoned after taking the sanctioned amount.

Fisheries :-

Seasonal fish culture is being done by the farmers in the ponds, rivers & the tanks. There is a good scope for the development of fisheries in the District as there is great demand for it too. Fish culture can be developed by making artificial tanks and putting the fish seeds in it. There is one fish hatchery of 16 hectare at Konch managed by Fisheries Development Corporation in which various types of Fish culture are developed and sold out. Except this there is water area farm of 1.5 hectare in the territory of Atta for producing the fish seeds.

There are nearly 1124 small and big ponds in the District. Most of the ponds are not suitable for fisheries. According to the information received there are 496 ponds having the area of 706.335 hectares suitable for fisheries. These ponds are tenanted on priority basis for the fisheries. In the District the production of fish is 2300 kg per average hectare. In this view the most of the production of fishes are consumed in the District and rest of it is marketed to other cities.

In the District various programmes are being carried on for promoting fisheries. Main programmes are- financing for construction and repairing of ponds, training for fisheries etc.

It is expected that in the year 2000-01 the business of 2.5 crore was made which indicates that the awareness of the department is increasing.

Bullocks And Bullock Carts :-

There are more bullocks than demand, but as cultivation by bullocks is comparatively expensive and the presence of the highest number of tractors and tractor hire services are available, people prefer it & hardly a few percent people carry on bullock- Cultivation. Moreover, bullocks with poor people are not very healthy and fit for cultivation for a long time, so not only bullocks are discarded, but also bullock carts. Making bullock cart has become uneconomic. Most of the finance is done under Integrated Rural Development Programme.

Dairy Development :-

Keeping in mind the hereditary habits of taking with dry stale bread by the children and other members of the family, in villages, in the absence of pulses or vegetable, and rapid rate of growing population, there is great demand of milk. There is scarcity of milk in towns like Orai, Jalaun, Konch & Kalpi where most of the milk is supplied from neighbouring villages. So there is ample scope of dairy development. The cattle wealth of the District is 763595, with 25 veterinary hospital and 34 Cattle Service Centres. I was told that there was 287, milk societies in the District out of which only 160 are functioning. These dormant societies should be revised. The scope of tinny butter extracting plants is increasing in the District. The butter is extracted directly from milk by the machines, then this extracted butter is processed in to Ghee. The prepared Ghee is consumed in the District as well as it is marketed to other District. Thus there is a great scope of Milk Dairy, for the production of milk and its product like ghee and cheese etc.

Minerals :-

According to the information received, except Sands and Maurang no other mineral is found in the District. The sands is hold on lease for one year by the District Magistrate Office. Here the Maurang of Betwa river and sand of Yamuna river is the best. Thus this is the natural resource of self employment and the revenue of the Government. Both Sand and Maurang are used in the construction work, thus it's demand is ever-green due to it's quality.

The total indicated area for the sand holding on lease in various Tehsils was 3035.60 acres during one year from 1.10.2000 to 30.9.2001.

3.2 Main Economic Activities Of District Jalaun

A Financial Assistance :-

For the Agriculture development as well as for establishing Industries and running Industries in proper ways, the finance is the most important factor and thus Financial Institutions whether they are Nationalised or not play an important role. The Industrial

development can't be imagine without the proper availability of finance. In the District the main sources of making finance available for Industries as well as for Agriculture are Nationalised banks. Allahabad bank is the lead bank of the District. The position of banks in the District is as follows: (till 2001)

S.No.	Name Of Bank	Branches
1	Allahabad bank (Lead Bank)	27
2	State Bank of India	8
3	Central Bank of India	7
4	Punjab National Bank	1
5	Bank of Baroda	1
6	Bank of India	1
7	Chatrasal Gramin Bank	37
8	District Co-operative Bank	17
9	Land Development Bank	4
Total		103

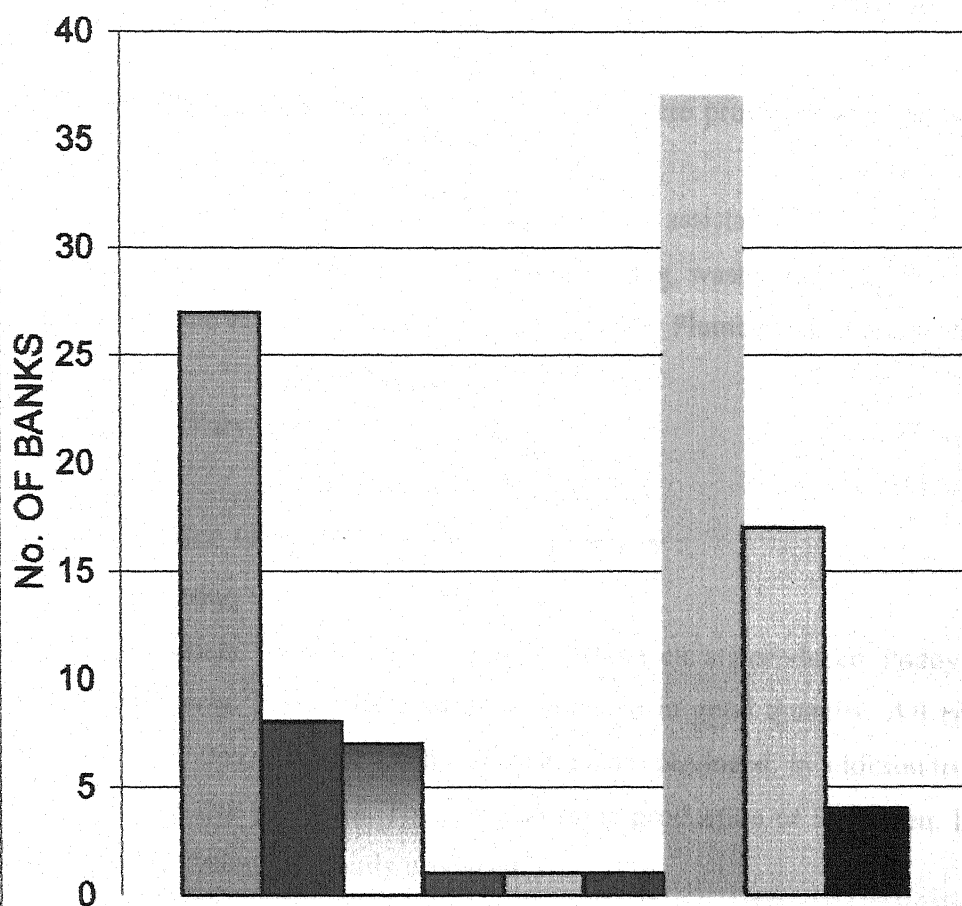
According to the Annual Loan Plan of the District, during the year 2000-2001 the expected loaning and actual loaning for various sector was as follows: (Rs in Lacks)

S.No.	Item	Expected Loan	Actual Loan
1.	Agriculture	5291.11	4821.14
2.	Industry	309.10	119.27
3.	Service	606.05	809.16
	Total	6296.26	5749.57

Co-Operatives :-

1.	District Cooperative Development Union	1
2.	Central Cooperative Consumers Store	1
3.	Sale & Purchase Cooperative Societies	8
4.	Cooperative Union/ Supply Stores	26
5.	Agricultural Cooperative Credit Societies	68
6.	Agriculturist families	171680

POSITION OF BANKS IN THE DISTRICT



1

VARIOUS BANKS

■ Allahabad bank (Lead Bank)
■ State Bank of India
■ Central Bank of India
■ Punjab National Bank
■ Bank of Baroda
■ Bank of India
■ Chatrasal Gramin Bank
■ District Co-operative Bank
■ Land Development Bank

Pradhan Mantri Rozgar Yojana :-

In the year 2000-2001 the loan target was 580 applicants under the scheme PMRY for which 1243 applications were received and 598 applications were forwarded to bank. Out of 598 beneficiaries to 483 beneficiaries were provided loan. Thus in the year 2000-2001 the achieved target was 83.27 % .

Khadi & Village Industries Board also provides assistance by way of interest subsidy. Loans by way of Capital subsidy to electric wiring, washer man (Dry Cleaning) barber (Saloon), Cycle repairing, Diesel engine repairing, Plumbers, Battery charging etc.

Source : Statistical Diary, District Jalaun

3.3 Performance Of Agriculture In Economy :

Agriculture Production :-

In District mainly Wheat, Jowar, Jao, Bajra, Maize etc are produced. Paddy is less produced comparatively. Pulses (Dal) are also produced in good quantity. All types of pulses like Arhar, Moong, Masoor, Channa. Matar etc are produced. In addition to this in Tilhan; Lahi, Sarson, are produced. There is also some production of Soyabean. In cash crop Sugarcane and Potato are mainly produced.

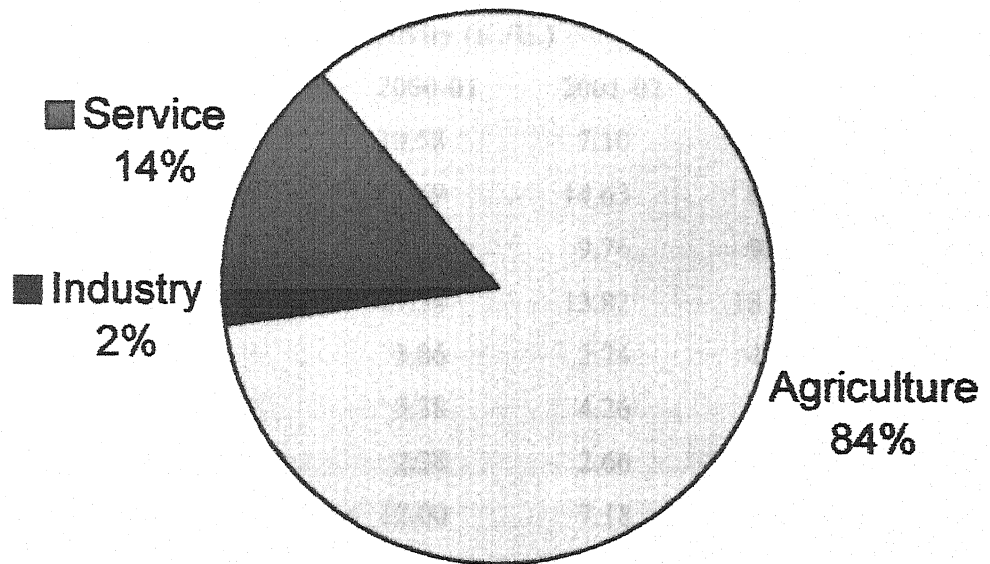
During the year 2000-2001 the Area, Production and Productivity of main crops are given below—

Productivity Of Rabi Crops

S.No.	Crop	Area	Production (M.T.)	Productivity (K./H.)
1.	Wheat	117674	339140	28.82
2.	Jao	8623	14525	16.84
3.	Grams	77652	55255	7.12
4.	Pea	47108	45930	9.75
5.	Lentil	62804	31214	4.97
6.	Rai/ Sarson	6200	2995	4.83
7.	Alsi	911	213	2.34
8.	Arhar	8637	19960	23.11

Source : District Agriculture Officer, Orai (Jalaun)

**Actual Loaning By The Commercial Banks For
Various Sector In The District, During The Year 2000-
2001**



■ Agriculture ■ Industry ■ Service

The above table clearly indicate that in Ravi crop the Wheat production of 339140 M. T. was the highest. Then after Gram and Matar was produced respectively 55255 M.T. and 45930 M.T. The production of Alsif of 911 M.T. was the lowest.

4. Productivity Of Kharif Crops

S.No.	Crop	Productivity (K./H.)			
		1999-2000	2000-01	2001-02	2002-03
1.	Rice	8.76	10.58	7.10	5.62
2.	Jwar	9.70	12.69	14.63	8.01
3.	Millet	12.66	15.29	9.76	9.93
4.	Arhar	13.61	17.54	13.82	18.80
7.	Kidney-bean	1.81	5.86	2.74	4.83
8.	Uard	1.68	5.38	4.26	3.48
9.	Til	0.93	2.28	2.66	1.35
10.	Soyabeen	3.05	12.00	7.18	1.82
11.	Groundnut	5.83	9.00	8.36	3.14
12.	Soorajmukhi	12.71	14.00	--	--
11.	Maize	--	--	7.08	5.00
	Average	7.29	10.33	7.74	8.28
	Productivity				

5. Fruits And Vegetables :-

The District is not very developed from the Fruit point of view. Mangoes, Guavas, Orange, Gooseberry and Lemon are produced in some parts of the District. Myrobalans are more produced in comparison to others. The production of Mangoes and Guavas is not sufficient for local consumption, hence a large part of the consumption is imported from other Districts. But due to the good production of Lemon, Gooseberry and Myrobalan these fruits are exported to other district. According to the information received from DFO (District Forest Officer) the total covered Area for fruits was 3400

hectare up to the year ended 2001, and in the same year the total production of fruits was 46960 M.T. out of which the percentage of Gooseberry, Lemon and Myrobalan was quite well.

In the District nearly all types of vegetables are produced. The Tomato occupies the place of highest production. According to the information received the total covered area for vegetable was 8100 hectare in which the total production was 87850 M.T. Except Tomato the other vegetables are consumed in the District and rest of the Tomato are exported to other Districts and near Cities.

Except this the production of 7065 M.T. potatoes was made in the year 2001 in the area 297 hectares. Generally this production is only sufficient for the local consumption. In the District the efforts are being made for the proper plantation of fruit-trees and decoration plants. According to the information received in the 2001 the aim of the marketing of such plants was 60 thousand plants, but as a result of increased demand 1.59 lacks plants was marketed; which is the indication of the development of awareness of plantation of such plants in the District.

6- Forest And Herbal Plants :-

In the District Bushes are also found with big and medium trees. In bushes mostly Acacia is found. Except this the Margosa (the Indian neem tree), Youkeliptas Catechu and Margosa trees are also found. In these forest many types of bushes, woodland and grass having the medical attribute are found. Most of them are Satavar, Arudsa, Tulsi, Safed Moosli, Bansbelio, Sarhata, Salai ka Gond, Jangali Jharberi, Karonda, Sahajan, Amarbel, Gurch, Giloya, Arjun and Harbahera etc.

According to the information received from forest department the total area of forest is 25639.35 hectare out of which the protected area is 7108.62 hectare and reserved forest area is 18530.73 hectare. The utilization of this resource is not possible because of the prohibition of forest cutting. Yet dead trees are collected by the forest department. There is a very great opportunities of producing such herbal plant and trees because of the utilization of such plants in herbal medicine and also in herbal cosmetic items.

3.4 Industrial Background Of District

District Jalaun is Agro-based district. Although Industrially Jalaun District is not very developed. Most of the industries are tinny & village industries in rural sector, yet there is great industrial importance of district Jalaun because of geographical situation and transportation facilities. As it has already been discussed that Jalaun district is situated between Kanpur and Jhansi so there are good facilities of transportation and marketing of raw material and prepared goods respectively.

In the district there are great opportunities of industrial development specially industries based on agriculture because of the availability of raw material and also the local availability of labour force, both skilled and unskilled. Due to the proper transportation there does not exist the problem of marketing. Jalaun district is well connected with other developed district so there is no scarcity of consumption of the finished product.

Though there is vast potential for investment of credit including working capital finance for cottage/ village industries/ rural artisans/ power looms/ handlooms, but it has not been fully exploited by the banks & financial agencies.

Approximately 18000 registered/unregistered Cottage/village industries, rural artisans are spread all over the block and are in tiny sector or mini sector. Most of the weavers societies as well as industrial societies numbering 32 & 33 respectively are defunct, for want of finance not provided by banks.

The other industrial units, operating in the district are oil expellers, detergent power, cake making. Dal mills, steel & wooden making, granite industry and 'Masala Udyog' etc.

Khadi and Village Industries Board also provides assistance by way of interest subsidy. Loans by way of Capital subsidy is granted to electric wiring, washer man (Dry Cleaning), Barber, cycle repairing, diesel engine repairing, Plumbers, battery charging etc.

Most of the amount has been disbursed under Integrated Rural Development Programme only. Incentives are also provided to handloom industry. There is good scope for 'Telghani', Flour mill, Dal Mill, Masala Udyog, Cement Jali, Ban making & Furniture making.

Nearly two decades back district Jalaun was said to be industrial desert, but since then the State Government and Central Government implemented various plans to bring Industrial Revolution, so as to solve the growing unemployment problem, and as such extended various facilities & concessions. So as to remove the regional imbalance and the economic backwardness of the district. Attracted by the concessions such as land at cheap rates, water & electricity facility, many industrialists and national level companies established large/medium & small industries during seventh and eight plan. As per the Industrial Profile year 1998-99 of district Jalaun there were 3153 Small Industrial Units, while this number has increased from 3153 to 3231 up to 31.3.2001. Some registered factories are as under:-

- 1- M/s Urvashi Synthetic Processors Pvt. Ltd., Orai.
- 2- M/s Orai Oil & Chemical Pvt. Ltd., (Hard Oil) Orai
- 3- M/s Pragati Steels Pvt. Ltd., Orai.
- 4- M/s Vege Pro Foods & Feeds Ltd., (Production of Soyabeen), Orai. (closed)
- 5- M/s Balvir Steels Pvt. Ltd., Orai. (Steel casting)
- 6- M/s Hindustan Liver Ltd. Orai. (Toilet Soap, Glycerin etc.)
- 7- M/s Orai Flour Mills Pvt. Ltd., Orai. (Flour Mill)
- 8- M/s Alpha Casting Pvt. Ltd., Orai. (Steel Casting)
- 9- M/s Preetam Steels Pvt. Ltd., Orai.
- 10- M/s Goodearth Steels Pvt. Ltd., Orai.
- 11- M/s Reliance Cement Pvt. Ltd., Orai.
- 12- M/s Shatabdi Steel Ltd., Orai. (closed)
- 13- M/s Bundelkhand Refractories Pvt. Ltd., Orai.
- 14- M/s Basant Refractories Pvt. Ltd., Orai.
- 15- M/s S.V.S. Packing Industries, Orai
- 16- M/s Anu Politax Pvt. Ltd., Orai.
- 17- M/s Pankaj Plastic Industry, Orai (polythene bags)
- 18- M/s Agrawal Plastic Industry, Orai (polythene bags)
- 19- M/s Krishna Granite, Orai
- 20- M/s Ganesh Granite, Orai

- 21- M/s Garima Phero Allies Ltd., Orai
- 22- M/s Star Industries Orai (Salt)
- 23- M/s Amrit Foods Orai
- 24- M/s Sengar Enterprises Orai (Electric Panels)
- 25- M/s Saurabh Ice Factory Orai (Ice)
- 26- M/s Sun India Pharmacy Pvt. Ltd., Orai.
- 27- M/s Sun Foods Pvt. Ltd., Orai.
- 28- M/s Jeevan Jyoti Pvt. Ltd., Orai.

Besides these many more industrialists are trying to establish their own enterprises.

Industrial Estates in the District :

The industrial estates plays important role in the establishment of new industries. Presently in the district the industrial estates are developed at Orai, Konch, Kalpi. Except these estates two small estates are developed at Madhogarh and at Nagra. The details of these estates are as follows:

Industrial Estate, Orai

This Industrial Estate is developed at 537.04 acres land by UPSIDC. In it , at site-1 there are 167 land units covering total land of 167.14 acres and at site-2 there are 289 land units covering total land of 207.51 acres.

Industrial Estate, Konch

The total area of this estate is 18.10 acre. This is also developed by UPSIDC. There are 59 plots out of which 49 plots have been allotted and 8 units are working. Here is also the facility of electric and water.

Industrial Estate, Kalpi

This estate is developed at 16.80 acres having 10 sheds and 36 plots.

Small Industrial Estate

Except the above there are two mini industrial estates developed by the UPSIDC at Madhoghar and at Nagra . In Madhoghar the estate is developed at 2.5 acres land having 44 land units, out of which 41 plots have been allotted and 3 are rest. At Nagar the area of the mini estate is 2.40 acre. In it there are 39 land units out of which only 7 plots have been allotted.

CHAPTER-IV

**FORM OF THE PRODUCTION
OF AGRO - BASED INDUSTRIAL
PRODUCT**

CHAPTER - 4

FORM OF THE PRODUCTION OF

AGRO-BASED INDUSTRIAL PRODUCT

As there are so many Agro-based industrial product which may be produced in the district. But before going in to the establishing the agro-based industry, one should know all ins and outs of the product as well as the industry. So keeping in mind the proverb- "Well begun is half done" I have extracted the gist of some surveyed agro-based industries. The gist is based on the observation of that industry, market survey and personnel interview of the officers and entrepreneurs of the industry. the datas are based on the projected profile of the industry, however these may be utilized or altered as per the requirements of the available resources and the potency to the extent to which the production is to be made.

The details of some agro-based industries; which have great impact on the entire economy as well as on the employment is as follows:

(A) BREAD PLANT

4.1 Introduction

Now-a-days, bread have become a very important item of food, and bakery product industry represents one of the major food industry because of its high volume of production. Bread is manufactured in every village and town and it's consumption is increasing everyday. Now-a-days, continuous bread making process is of particular interest to the large wholesale baking companies, it is an important development in baking industry besides producing bread in large quantities the continuous process provides strict quality control over the finished products. For the manufacture of bread hard flour is taken and water is added in the flour to make dough. Yeast is an essential agent used in the manufacture of bread, it ferments the dough. Mostly compressed or active dry yeast is used in bakeries.

4.2 Raw Materials Used

Following raw materials are used in the manufacture of bread e.g. Flour, Yeast, Salt, Water, Sugar, Milk Solids, Fat, etc.

Flour : In the manufacture of bread the hard flour is used, which is a fine creamy colour powder containing 10-14 % proteins. For making dough water is added to the flour, the dough should neither be too stiff or sticky.

Yeast : In the manufacture of bread, yeast is an essential agent, it ferments the dough and breaks sugar into simple sugar and raises the dough. Mostly compressed yeast is used which is kept in the refrigerated chambers until used.

Milk Solids : In the manufacture of bread skimmed milk powder is used.

Salt : In the manufacture of bread crushed salt crystals are used.

Sugar : It is used as a nutrient for the yeast.

Water : It is used for dough mixing, hardness in water improves dough characteristics.

Enrichment : Breads are generally enriched with nutrients e.g. iron, thiamine, etc.

4.3 Availability Of Present Source

The raw material, milk solids, salt, sugar, water required for the manufacturing of Bread is available in the district itself. Although these materials may also be purchased from the out side of the district. The enrichments are not available in the district but may be purchased from the other cities.

4.4 Sources Of Other Inputs

In the manufacturing of Bread the inputs are flour, water, sugar, yeast, salt, milk power, yeast food (ammonium sulfate), monocalcium phosphate, sodium phosphate, potassium bromate and potassium iodate.

4.5 Manufacturing Process

Manufacturing process starts with the mixing and fermentation of dough which can be carried out either by straight dough method or sponge dough method.

In the Manufacture of bread following process takes place :

- i) **Mixing and Fermentation (Sponge dough method) :** More than half of the flour required for a batch is conveyed automatically to the scale hopper above the mixer then the yeast suspended in water and the yeast food is added on the top of the flour. The required amount of water is added into the mixing bowl and these ingredients are then mixed into a sponge. The sponge is then conveyed to the fermentation room where a particular temperature and humidity is maintained. During fermentation volume of the sponge rises and after full fermentation it is again sent to the mixer. Here sugar, salt, shortening, dry milk and other ingredients are added. The remaining flour and water are scaled and metered into the mixer and the dough is mixed.
- ii) **Proofing and Baking :** Proofing is generally done in continuous proofers where the pans containing the dough are conveyed to a temperature and humidity controlled cabinet. During proofing panel dough is permitted to rise (proof) in the pan to a volume required of finished bread.

After proofing the dough is mechanically transferred to the oven. Generally traveling type of ovens are used in which pans of proof dough are loaded at one end and baked dough comes out of the other end. These ovens consists of several chambers with variation in temperature from one chamber to another chamber.

- iii) **Cooling, Slicing and Wrapping** : The hot bread is automatically conveyed by belts through the bread cooler. The bread is then transferred to the slicer, where the bread is sliced by the rapidly moving razors, then the bread is packed in wrappers.

Formulation

A bread dough is made from the following formulations :

i) <u>Ingredients</u>	<u>% of flour (wt. basis)</u>
Flour	100.00
Water	66.00
Sugar	8.00
Salt	2.01
Yeast	3.00
Shortening	3.25
Salt	2.01
Milk Powder	1.00
Yeast Food (Ammonium Sulfate)	0.525
Monocalcium phosphate	0.145
Sodium Propionate	0.10
Potassium Bromate & Potassium Iodate (Oxidizing agents)	0.009
ii) <u>Ingredients</u>	<u>% of flour (wt. basis)</u>
Flour	100.00
Water	66.70
Sugar	7.00
Salt	2.00
Yeast	3.00
Milk Powder	1.00
Shortening	3.30

Yeast Food (Ammonium Sulfate)	0.08
Calcium Phosphate	0.40
Atmul	0.10
Functional Additings	Variable

4.6 Estimated Cost Of Project

The Total Cost of Project is proposed to be Rs. 55.64 Lacs, including margin money for working capital amounting to Rs. 5.64 lacs. Details of which are as under :

<u>S. No.</u>	<u>Particulars</u>	<u>Amount (Rs in Lacs)</u>
1.	Land and Site Development	9.00
2.	Building	14.00
3.	Plant & Machinery	20.00
4.	Miscellaneous Fixed Assets	6.00
5.	Preliminary & Preoperative Expenses	1.00
6.	Margin Money for working capital	5.64
		<hr/>
		55.64
		<hr/>

Means Of Finance

The Total Cost of Project Rs. 55.64 as above is Proposed to be Financed as under :

<u>S. No.</u>	<u>Particulars</u>	<u>Amount (Rs in Lacs)</u>
1.	Promotor's Contribution	14.00
2.	Term Loan from Bank/Financial Institutions	30.00
3.	Unsecured Loans/Public Deposits	11.64
		<hr/>
		55.64
		<hr/>

Schedule Of Working Capital Requirement (Rs. In Lacs)

Particulars	Duration	1st year	2nd year	3rd year	4th year	5th year
Inventories						
-Raw Materials	30 days	15.56	18.14	20.73	23.33	25.91
-Work in Progress	1 day	0.54	0.62	0.71	0.80	0.89
-Finished Goods	1 day	0.58	0.68	0.77	0.87	0.97
Sundry Debtors	30 days	<u>22.87</u>	<u>26.13</u>	<u>30.59</u>	<u>34.41</u>	<u>38.24</u>
		39.55	45.57	52.80	59.41	66.01
Less						
Sundry Creditors	30 days	<u>17.16</u>	<u>18.41</u>	<u>20.10</u>	<u>23.59</u>	<u>26.18</u>
Working Capital						
Requirement		22.39	27.16	32.70	35.82	9.83
Cash Credit From Bank		<u>16.75</u>	<u>16.75</u>	<u>16.75</u>	<u>16.75</u>	<u>16.75</u>
Margin Money						
for Working Capital		<u>5.64</u>	<u>10.41</u>	<u>15.95</u>	<u>19.07</u>	<u>23.08</u>

NOTE :

- (1) A Minimum of 30 days of material is required for raw material to be stocked.
- (2) Raw material will take 1 day to reach the shape of finished goods hence stock of work in progress is kept for 1 day.
- (3) Stock of 1 day will be kept for finished goods.
- (4) Credit Period allowed to customers is 30 days.
- (5) Raw Material will be Purchased on 30 days credit.
- (6) Cash Credit limit is worked out at 75% of the Working Capital Requirement.

Schedule Of Fixed Assets And Depreciation Thereon

Depreciation is calculated on W.D.V. shown as under :

(Rs. In Lacs)

Particulars	1st year	2nd year	3rd year	4th year	5th year
Land & Site Development					
Opening W.D.V	9.00	9.00	9.00	9.00	9.00
Less : Depreciation	-	-	-	-	-
Closing W.D.V.	9.00	9.00	9.00	9.00	9.00

Building

Opening W.D.V	14.00	12.60	11.34	10.21	9.19
Less : Depreciation @ 10%	1.40	1.26	1.13	1.02	0.92
Closing W.D.V.	12.60	11.34	10.21	9.19	8.27

Plant & Machinery

Opening W.D.V	20.00	15.00	11.25	8.44	6.33
Less : Depreciation @ 25%	5.00	3.75	2.81	2.11	1.58
Closing W.D.V.	15.00	11.25	8.44	6.33	4.75

Misc. Fixed Assets

Opening W.D.V	6.00	5.40	4.86	4.37	3.93
Less : Depreciation @ 10%	0.60	0.54	0.49	0.44	0.40
Closing W.D.V.	5.40	4.86	4.37	3.93	3.53
Total Opening W.D.V	49.00	42.00	36.45	32.02	28.45
Less : Total Depreciation	7.00	5.55	4.43	3.57	2.90
Total Closing W.D.V.	42.00	36.45	32.02	28.45	25.55

Schedule Of Interest On Loans**(Rs. In Lacs)**

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Interest On					
-Term Loan	4.19	3.26	2.33	1.40	0.47
-Cash Credit	2.60	2.60	2.60	2.60	2.60
-Unsecured Loan	<u>2.13</u>	<u>2.13</u>	<u>2.13</u>	<u>2.13</u>	<u>2.13</u>
	<u>8.92</u>	<u>7.99</u>	<u>7.06</u>	<u>6.13</u>	<u>5.20</u>

Schedule Of Term Loan Repayment**(Rs. In Lacs)**

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Balance Outstanding	30.00	24.00	18.00	12.00	6.00
Repayment	6.00	6.00	6.00	6.00	6.00
Closing Balance	24.00	18.00	12.00	6.00	

Projected Profitability Statement (Rs. Lacs)

Projected Profitability Statement of the unit is shown as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
(A) Sales	228.73	267.63	305.88	344.13	382.38
(B) Cost of Production					
Raw Material Consumed	155.99	181.48	207.39	233.30	259.22
Power & Fuel	2.10	2.45	2.80	3.15	3.50
Direct Labour & Wages	5.40	6.30	7.20	8.10	9.00
Consumables Stores	1.08	1.26	1.44	1.62	1.80
Other Manufacturing Expenses	0.72	0.84	0.96	1.08	1.20
Depreciation	<u>7.00</u>	<u>5.55</u>	<u>4.43</u>	<u>3.57</u>	<u>2.90</u>
	172.29	197.88	224.22	250.82	277.62
Add : Opening Stock					
-W.I.P.	-	0.54	0.62	0.71	0.80
-Finished Goods	-	0.58	0.68	0.77	0.87
Less : Closing Stock					
-W.I.P.	0.54	0.62	0.71	0.80	0.89
-Finished Goods	<u>0.58</u>	<u>0.68</u>	<u>0.77</u>	<u>0.87</u>	<u>0.97</u>
	<u>171.17</u>	<u>197.70</u>	<u>224.04</u>	<u>250.63</u>	<u>277.43</u>
(C) Gross Profit .(A-B)	57.56	69.93	81.84	93.50	104.95
(D) Interest on					
-Term Loan	4.19	3.26	2.33	1.40	0.47
-Working Capital	2.60	2.60	2.60	2.60	2.60
-Unsecured Loans	2.13	2.13	2.13	2.13	2.13
(E) Selling , General & Administrative Expenses	30.00	34.80	40.00	48.00	58.00
(F) Preliminary Expenses					
Written off	0.20	0.20	0.20	0.20	0.20
(G) Profit Before Tax					
(C-D+E+F)	18.44	26.94	34.58	39.17	41.55
(H) Provision for Tax	6.45	9.43	12.11	13.72	14.54

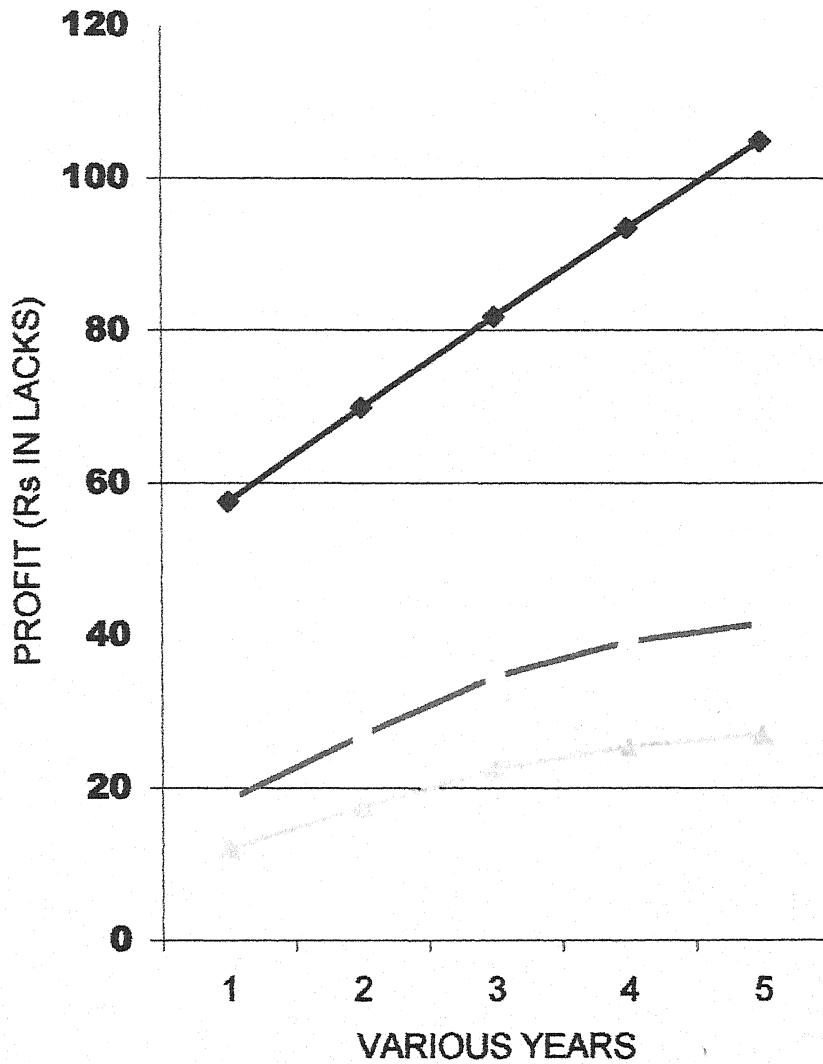
(I) Net Profit	11.99	17.51	22.47	25.45	27.01
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Projected Cash Flow Statement (Rs. In Lacs)

Sources and Uses of Funds are shown as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
(A) Sources of Funds					
Net Profit Before Taxes					
With Interest added Back	27.36	34.93	41.64	45.30	46.75
Introduction of Promoters					
Contribution & Increase					
Therein	14.00	-	-	-	-
Term Loan from Bank	30.00	-	-	-	-
Unsecured Loan	11.64	-	-	-	-
Cash Credit	16.75	-	-	-	-
Depreciation	7.00	5.55	4.43	3.57	2.90
Sundry Creditors	17.16	1.25	1.69	3.49	2.59
Preliminary Expenses W/off 0.20	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>
	<u>124.11</u>	<u>41.93</u>	<u>47.96</u>	<u>52.56</u>	<u>52.44</u>
(B) Uses of Funds					
Preliminary Expenses	1.00	-	-	-	-
Capital Expenditure	49.00	-	-	-	-
Creation of Current					
Assets and increase therein					
-Inventories	16.68	2.76	2.77	2.79	2.77
-Debtors	22.87	3.26	4.46	3.82	3.83
Decrease in Term Loan	6.00	6.00	6.00	6.00	6.00
Increase in Investments	-	-	8.00	8.00	8.00
Interest	8.92	7.99	7.06	6.13	5.20
Taxation	6.45	9.43	12.11	13.72	14.54
Drawing	<u>3.60</u>	<u>4.80</u>	<u>6.00</u>	<u>6.00</u>	<u>7.20</u>
	<u>114.52</u>	<u>34.24</u>	<u>46.40</u>	<u>46.46</u>	<u>47.54</u>

PROFIT PROJECTION IN VARIOUS YEARS OF BREAD PLANT



- ◆— Gross Profit
- - Profit Before Tax
- ★— Net Profit

Opening Balance	-	9.59	17.28	18.84	24.94
Surplus/Deficit	9.59	7.69	1.56	6.10	4.90
Closing Balance	9.59	17.28	18.84	24.94	29.84

Projected Balance Sheet (Rs. In Lacs)

Projected Balance Sheet of the Unit is shown as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
LIABILITIES					
Capital	14.00	14.00	14.00	14.00	14.00
Reserves & Surplus	8.39	21.10	37.57	57.02	76.83
Term Loan	24.00	18.00	12.00	6.00	-
Cash Credit	16.75	16.75	16.75	16.75	16.75
Unsecured Loans	11.64	11.64	11.64	11.64	11.64
Sundry Creditors	<u>17.16</u>	<u>18.41</u>	<u>20.10</u>	<u>23.59</u>	<u>26.18</u>
	<u>91.94</u>	<u>99.90</u>	<u>112.06</u>	<u>129.00</u>	<u>145.40</u>
ASSETS					
Gross Block	49.00	49.00	49.00	49.00	49.00
Accumulated Depreciation	7.00	12.55	16.98	20.55	23.45
Net Block	42.00	36.45	32.02	28.45	25.55
Investments	-	-	8.00	16.00	24.00
Inventories	16.68	19.44	22.21	25.00	27.77
Sundry Debtors	22.87	26.13	30.59	34.41	38.24
Cash & Bank Balance	9.59	17.28	18.84	24.94	29.84
Preliminary Expenses	<u>0.80</u>	<u>0.60</u>	<u>0.40</u>	<u>0.20</u>	<u>-</u>
	<u>91.94</u>	<u>99.90</u>	<u>112.06</u>	<u>129.00</u>	<u>145.40</u>

Schedule Of Sales

Sales at different capacity utilization is worked out as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
(1) Loaves of 800 gms each	1800000	2100000	2400000	2700000	3000000
Add : Opening Stock	-	6000	7000	8000	9000

Less : Closing Stock	<u>6000</u>	<u>7000</u>	<u>8000</u>	<u>9000</u>	<u>10000</u>
Sales(Qty)	<u>1794000</u>	<u>2099000</u>	<u>2399000</u>	<u>2699000</u>	<u>2999000</u>
@ Rs. 8.50 each (in lacs) (A)	<u>152.49</u>	<u>178.42</u>	<u>203.92</u>	<u>229.42</u>	<u>254.92</u>

(2) Loaves of 400 gms each	1800000	2100000	2400000	2700000	3000000
Add : Opening Stock	-	6000	7000	8000	9000
Less : Closing Stock	6000	7000	8000	9000	10000
Sales(Qty)	<u>1794000</u>	<u>2099000</u>	<u>2399000</u>	<u>2699000</u>	<u>2999000</u>
@ Rs. 4.25 each (in lacs) (B)	76.24	89.21	101.96	114.71	127.46
Total Sales					
(A+B) (in lacs)	<u>228.73</u>	<u>267.63</u>	<u>305.88</u>	<u>344.13</u>	<u>382.38</u>

Schedule Of Raw Material Purchased

Purchases of Raw Material is worked out as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Wheat					
Raw Material Required	1620000	1890000	2160000	2430000	2700000
Add : Closing Stock					
-W.I.P	5400	6300	7200	8100	9000
- Raw Material	162000	189000	216000	243000	270000
Less : Opening Stock					
-W.I.P	-	5400	6300	7200	8100
- Raw Material	-	162000	189000	216000	243000
Raw Material	<u>1787400</u>	<u>1917900</u>	<u>2187900</u>	<u>2457900</u>	<u>2727900</u>
Purchased (Kg)					
Rate Per Kg Rs. 7.50					
Purchases (in lacs) (A)	<u>134.06</u>	<u>143.84</u>	<u>164.09</u>	<u>184.34</u>	<u>204.59</u>

Salt

Raw Material Required	18000	21000	24000	27000	30000
Add : Closing Stock					

-W.I.P	60	70	80	90	100
- Raw Material	1800	2100	2400	2700	3000
Less : Opening Stock					
-W.I.P	-	60	70	80	90
- Raw Material	-	1800	2100	2400	2700
Raw Material	<u>19860</u>	<u>21310</u>	<u>24310</u>	<u>27310</u>	<u>30310</u>
Purchased (Kg)					
Rate Per Kg Rs. 3.00	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Purchases (in lacs) (B)	<u>0.60</u>	<u>0.64</u>	<u>0.73</u>	<u>0.82</u>	<u>0.91</u>
Sugar					
Raw Material Required	36000	42000	48000	54000	60000
Add : Closing Stock					
-W.I.P	120	140	160	180	200
- Raw Material	3600	4200	4800	5400	6000
Less : Opening Stock					
-W.I.P	-	120	140	160	180
- Raw Material	-	3600	4200	4800	5400
Raw Material	<u>39720</u>	<u>42620</u>	<u>48620</u>	<u>54620</u>	<u>60620</u>
Purchased (Kg)					
Rate Per Kg Rs. 15.00	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Purchases (in lacs) (C)	<u>5.96</u>	<u>6.39</u>	<u>7.29</u>	<u>8.19</u>	<u>9.09</u>
Milk powder					
Raw Material Required	14400	16800	19200	21600	24000
Add : Closing Stock					
-W.I.P	48	56	64	72	80
- Raw Material	1440	1680	1920	2160	2400
Less : Opening Stock					
-W.I.P	-	48	56	64	72
- Raw Material	-	1440	1680	1920	2160
Raw Material	<u>15888</u>	<u>17048</u>	<u>19448</u>	<u>21848</u>	<u>24248</u>
Purchased (Kg)					

Rate Per Kg Rs. 75					
Purchases (in lacs) (D)	11.92	12.79	14.59	16.39	18.19

Edible oil

Raw Material Required	4500	5250	6000	6750	7500
Add : Closing Stock					
-W.I.P	15	17.50	20	22.50	25
- Raw Material	450	525	600	675	750
Less : Opening Stock					
-W.I.P	-	15	17.50	20	22.50
- Raw Material	-	450	525	600	675
Raw Material	4965	5327.50	6077.50	6827.50	7577.50
Purchased (Kg)					
Rate Per Kg Rs. 35					
Purchases (in lacs) (E)	1.74	1.86	2.13	2.39	2.65

Yeast

Raw Material Required	10800	12600	14400	16200	18000
Add : Closing Stock					
-W.I.P	36	42	48	54	60
- Raw Material	1080	1260	1440	1620	1800
Less : Opening Stock					
-W.I.P	-	36	42	48	54
- Raw Material	-	1080	1260	1440	1620
Raw Material	11916	12786	14586	16386	18186
Purchased (Kg)					
Rate Per Kg Rs. 30.					
Purchases (in lacs) (F)	3.57	3.84	4.38	4.92	5.46

Shortening

Raw Material Required	41400	48300	55200	62100	69000
Add : Closing Stock					
- W.I.P	138	161	184	207	230
- Raw Material	4140	4830	5520	6210	6900
Less : Opening Stock					
- W.I.P	-	138	161	184	207
- Raw Material	-	4140	4830	5520	6210
Raw Material	45678	49013	55913	62813	69713
Purchased (Kg)					
Rate Per Kg Rs. 30.					
Purchases (in lacs) (G)	13.70	14.70	16.77	18.84	20.91
Total Purchases	171.55	184.06	209.98	235.89	261.80
(A+B+C+D+E+F+G)					

Schedule Plant & Machinery

Details of Plant & Machinery to be Installed are as under :

<u>S. No.</u>	<u>Particulars</u>	<u>Amount (Rs. in Lacs)</u>
1.	Flour Shifter	0.20
2.	Water Measuring Tanks :	0.25
3.	Dough Kneading Machine	1.25
4.	Extra Pens for RVK Kneader	0.25
5.	Single Pocket Dough Divider	0.75
6.	Rounder	0.65
7.	Straight Through Moulder	0.75
8.	Travelling Oven	4.50
9.	Tunnel-Type Final Proofer	1.75
10.	Final Proof Trolleys	0.75
11.	Baking Pans & Lids	1.00
12.	Hot Leaves Collection Tables	0.45

13.	Bread Cooling Tunnel with Pusher	1.25
14.	Bread Cooling Trolleys	0.75
15.	Salt Conveyor	0.75
16.	Bread Basket	1.00
17.	Other Machineries	3.70
		<hr/>
		20.00
		<hr/>

Computation Of Ratios

Computation of various ratios are shown as under :

(A) Current Ratio : Formula = $\frac{\text{Current Asset}}{\text{Current Liabilities}}$

<u>Years</u>	<u>Current Assets</u>	<u>Current Liabilities</u>	<u>Current Ratio</u>
Ist	49.14	33.91	1.45:1
IIInd	62.85	35.16	1.76:1
IIIrd	71.64	36.85	1.94:1
IVth	84.35	40.34	2.10:1
Vth	95.85	42.93	2.23:1

(B) Interest Coverage Ratio :

Formula = $\frac{\text{Profit After Tax} + \text{Interest on Term Loan \& Unsecured Loan}}{\text{Interest on Term Loan \& Unsecured Loan}}$

<u>Years</u>	<u>Profit After Tax</u>	<u>Interest on Term Loan & Unsecured Loan</u>	<u>Total</u>	<u>Interest Coverage Ratio</u>
Ist	11.99	6.32	18.31	2.90:1
IIInd	17.51	5.39	22.90	4.25:1
IIIrd	22.47	4.46	26.93	6.04:1
IVth	25.45	3.53	28.98	8.21:1
Vth	27.01	2.60	29.61	11.39:1

(C) Return on Investment :

Formula		$\frac{\text{Profit Before Tax} \times 100}{\text{Capital employed}}$	
Years	Profit before Tax	Capital Employed	Return on Investment
Ist	18.44	21.59	85.41 %
IIInd	26.94	34.50	78.09 %
IIIrd	34.58	51.17	67.58 %
IVth	39.17	70.60	55.47 %
Vth	41.55	90.83	45.74 %

(C) Pay Back Period :

Years	Profit After Tax	Non Cash expenses	Cash in flow	Cumulative cash flow
Ist	11.99	7.20	19.19	19.19
IIInd	17.51	5.75	23.26	42.45
IIIrd	22.47	4.63	27.10	69.55
IVth	25.45	3.77	29.22	98.77
Vth	27.01	2.30	29.31	128.08

Total Cost of Project is Rs. 55.64 lacs

Pay Back period is 2 years and 2.4 months

(E) Break Even Point :

Formula			$\frac{\text{Fixed Cost} \times \text{Capacity Utilisation}}{\text{Sales} - \text{Variable Cost}}$		
Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	(60%)	(70%)	(80%)	(90%)	(100%)

(A) Fixed Costs

Interest on Term Loan	4.19	3.26	2.33	1.40	0.47
Interest on Unsecured Loan	2.13	2.13	2.13	2.13	2.13
Depreciation	7.00	5.55	4.43	3.57	2.90
Administrative, Selling					

& General Overhead	22.50	26.10	30.00	36.00	43.50
Preliminary Expenses	0.20	0.20	0.20	0.20	0.20
	<u>36.02</u>	<u>37.24</u>	<u>39.09</u>	<u>43.30</u>	<u>49.20</u>
(B) Sales	<u>228.73</u>	<u>267.63</u>	<u>305.88</u>	<u>344.13</u>	<u>382.38</u>

(C) Variable Cost

Raw Material Consumed	155.99	181.48	207.39	233.30	259.22
Power & Fuel	2.10	2.45	2.80	3.15	3.50
Direct Labour & Wages	5.40	6.30	7.20	8.10	9.00
Consumable Stores	1.08	1.26	1.44	1.62	1.80
Other Manufacturing Expenses	0.72	0.84	0.96	1.08	1.20
Interest on Cash Credit	2.60	2.60	2.60	2.60	2.60
Adm., Selling & General Overhead	<u>7.50</u>	<u>8.70</u>	<u>10.00</u>	<u>12.00</u>	<u>14.50</u>
	175.39	203.63	232.39	261.85	291.82
Add : Closing Stock					
-W.I.P	-	0.54	0.62	0.71	0.80
-Finished Goods	-	0.58	0.68	0.77	0.87
Less : Closing Stock					
-W.I.P	0.54	0.62	0.71	0.80	0.89
-Finished Goods	<u>0.58</u>	<u>0.68</u>	<u>0.77</u>	<u>0.87</u>	<u>0.97</u>
	<u>174.27</u>	<u>203.45</u>	<u>232.21</u>	<u>261.66</u>	<u>291.63</u>
(D) Contribution (B-C)	54.46	64.18	73.67	82.47	90.75
B.E.P.	39.68%	40.62%	42.45%	47.25%	54.21%

Basic Assumptions

This Project Report of Bread Plant is Prepared on the following assumptions

- 1) No. of Working days are 300 days per annum and no. of shifts is one per day of 8 hours each.

2) Capacity utilization has been assumed as follows :

Ist Year 60%

IIInd Year 70%

IIIrd Year 80%

IVth Year 90%

Vth Year 100%

3) Total expenses on Power & Fuel is assumed at Rs. 3.50 Lacs at 100 % capacity utilization and are

assumed to be fully variable.

4) Total expenses on Labour & Wages is assumed at Rs. 9.00 Lacs at 100 % capacity utilization and are assumed to be fully variable.

5) Total expenses on Consumable Stores and Other Manufacturing expenses are assumed at Rs. 1.80 lacs, Rs. 1.20 lacs, respectively at 100 % capacity utilization and are assumed to be fully variable.

6) Selling, general & Administrative expenses has been assumed at different capacities as follows.

At 60% Rs. 30.00 Lacs

At 70% Rs. 34.80 Lacs

At 80% Rs. 40.00 Lacs

At 90% Rs. 48.00 Lacs

At 100% Rs. 58.00 Lacs

75 % of the above expenses are considered as fixed and 25 % as variable at different capacities respectively.

4.7 Market Survey

With the introduction of preservation method and mechanized system of making bread, large whole sale baking companies came into existence which produced bread in large quantities and sold it through a chain of distributors and retailers over a wide distribution area. The demand of bread is of regular nature and no seasonal factor is

involved. It's demand is increasing throughout the world because of ever growing population and increasing popularity of such products. The consumption of bread is increasing everyday and these are being increasingly used for various feeding programme for children managed by various voluntary agencies. The government is also encouraging the industry to expand in the rural areas with it's nutritious and ready to eat products. Bakery industry is also popularizing wheat in the non-wheat consuming regions of the country. Bread have a vast market, it is consumed in almost all the houses. Bread manufacturing have a substantial scope for development in all the parts of the country and it can contribute substantially in resolving the problem of unemployment.

(B) FLORICULTURE (CUT FLOWERS)

Introduction

Everybody love flowers. They are symbols of beauty affection, romance, tranquility, etc. Besides their aesthetic value they have multivariate uses such as for cut-blooms, for extracting perfumes & other products, for worshipping the deities and all festive occasions like marriages, religious ceremonies and social functions. A large genus of erect, sarmentose or climbing shrubs widely distributed in the temperate parts of the northern hem sphere and on tropical mountains.

Hybrid Perpetuals

Hybrid perpetuals are one of the earliest groups of hybrid roses, characterized by tall growth, large full flowers, longer period of flowering and in many cases by rich fragrance. They bear generally a single crop of flowers in winter. General Jacques- Minot, Mrs. John Laing and Paul Neyron are some of the popular types belonging to this class.

Hybrid Teas

Hybrid teas were introduced towards the end of the 19th century. They are the largest group comprising over 50 % of garden roses, and new forms are being added every year. Charlotte Armstrong, Crimson Glory, Peace, Super Star and Mc Gredy's Sunset are some well known examples.

Varieties Of Rose

There are several thousand varieties of roses and several hundred new ones are being added every year. The choice of varieties depends mainly on the climate and the soil of the growing region for cut flowers, exhibition, garden display, etc. It also depends on personal & family preferences.

Following are the few varieties of roses commonly available in the market :

Hybrid Tea

Red and Dark Red : Avon, Papa Meilland, Oklahoma, Mister Lincoln, Christian Dior, Happiness

Orange : Hawai, Super Star

Yellow : Summer Sunshine, Kiss of Fire, Golden Giant

White : Virgo, Matterhorn, John F. Kennedy, Homi Bhabha

Pink : Euffeck Tower, Michelle Meilland, First Prize, Montezume, South Seas

Bicolours : Bajazzo

Lavender : Blue Moon, Lady X

Copper Colour : Vienna Charm, Thais

Striped : Anvil sparks, Careless Love

Fragrant : Crimson Glory, Papa Meilland, Oklahoma, Charles Mallerin

Floribunda : Charleston (Yellow and Crimson), Flameneo, Orange Sensation, Banjaran Africa, Else Poulsen, Summer Snow (White), Sambra (Orange)

Polyantha : Echo, Chattril Rose, Vater tag

Climbing : Golden Showers, Cocktail, Clg. Virgo(White), Clg. Summer Snow(White), Golden Showers (Yellow)

Miniature : Little bucharo (Velvety Red), Cricri, Rose Marin (Silver Rose),

H.T.Type Floribunda : Pink Parfait, Queen Elizabeth (Pink)

Rose Cultivation Process

Rose is a heavy feeder and thrives of best in well-worked and well-drained soils, different soils need different treatments to render them suitable for rose cultivation. The beds should be prepared six months to one year in advance of planting.

Rose are propagated by seeds, stem or root cuttings, layering, budding and grafting. Propagation from seeds is done mostly for raising new varieties. Propagation by stem cuttings is the usual practice adopted for securing good yields of flowers in the areas cultivating rose on a commercial scale in India.

The roses are to be grown in a greenhouse. Greenhouse is a house made of glass or FRP sheets which are used to construct the walls, roofs, etc. to control the temperature, air ventilation and lights. The climatic conditions are controlled within the greenhouse by using a micro-computer and sensors.

The rose plants are given fertilizers and micro-nutrients. Temperature in the greenhouse is controlled using a Pad and Fan Cooling System. Heating is used during the extreme winter. For rose cultivation a greenhouse night temperature of approximately 16°C is optimum for growth. Under certain cropping conditions slightly higher or lower temperatures might be maintained for relatively short periods of time without serious ill effects. Day temperatures are generally maintained at 20°C - 21°C on cloudy days and 20°C - 28°C on sunny days. Water is required to be given regularly to the plants.

The plants are planted in beds comprising of manure, sand and soil. Farm yard manure, fertilizers, micro-nutrients, etc. are applied at regular intervals throughout the growing season. Rose plants are pruned for fuller bloom in the main season. Further, plants are rested for 3-4 months during off season. After 45 days of pruning, roses must be cut just as the buds are opening. Cut buds of the stem are brought to the packing and grading hall. Grading is done after harvesting. Flowers are bunched together according to such grading. Heads of roses are tied together using paper rolls, tissue paper and rubber band. The bunched flowers duly graded are then packed into specially designed corrugated card board boxes. The Cold Chain is used for transporting the produce right up to the ultimate retailers. Refrigerated van is used for transport from farm to airport. The temperature of 2° - 4°C has to be constantly maintained at all times during the transportation.

Estimated Cost Of Project

The Total Cost of Project is proposed to be Rs. 161.13 Lacs, including margin money for working capital amounting to Rs. 2.13 Lacs. Details of which are as under :

<u>S.No.</u>	<u>Particulars</u>	<u>Amount (Rs in Lac)</u>
1.	Land & Site Development	40.00
2.	Building	50.00
3.	Plant & Machinery	49.50

4.	Miscellaneous Fixed Assets	16.00
5.	Preliminary & Preoperative Expenses	3.50
6.	Margin Money for working capital	2.13
		<hr/>
		161.13

Means Of Finance

The Total Cost of Project Rs. 161.13 Lacs as above is Proposed to be Financed as under :

<u>S.No.</u>	<u>Particulars</u>	<u>Amount (Rs in Lac)</u>
1.	Promotor's Contribution	45.00
2.	Term Loan from Bank/Financial Institutions	86.00
3.	Unsecured Loans/Public Deposits	<hr/> 30.13
		161.13

Schedule Of Working Capital Requirement

(Rs. in Lacs)						
<u>Particulars</u>	<u>Duration</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Inventories						
-Raw Materials	30 days	0.24	0.28	0.32	0.36	0.40
-Work in Progress	30 days	0.83	0.94	1.08	1.21	1.35
-Finished Goods	7 days	0.39	0.45	0.50	0.57	0.64
Sundry Debtors	30 days	<hr/> 6.46	<hr/> 7.69	<hr/> 8.79	<hr/> 9.90	<hr/> 0.91
		7.92	9.36	10.70	12.04	3.30
Sundry Creditors	30 days	<hr/> 0.29	<hr/> 0.29	<hr/> 0.33	<hr/> 0.37	<hr/> 0.41
Working Capital						
Requirement		7.63	9.07	10.37	11.67	12.89
Cash Credit Limit		5.50	5.50	5.50	5.50	5.50
Margin Money		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
for Working Capital		<hr/> 2.13	<hr/> 3.57	<hr/> 4.87	<hr/> 6.17	<hr/> 7.39

Note :

- (1) A Minimum of 30 days of material is required for raw material to be stocked.
- (2) Raw material will take 30 day to reach the shape of finished goods, hence stock of work in progress is kept for 30 day.
- (3) Stock of 7 days will be kept for finished goods.
- (4) Credit Period allowed to customers is 30 days.
- (5) Raw Material will be Purchased on 30 days credit.
- (6) Cash Credit limit is worked out at 75% of the Working Capital Requirement.

Schedule Of Depreciation

Depreciation is calculated on W.D.V. shown as under : (Rs. in Lacs)

<u>Particulars</u>	<u>Amount</u>	<u>Rate</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Land & Site							
Development	40.00	-	-	-	-	-	-
Building	50.00	10%	5.00	4.50	4.05	3.65	3.28
Plant &							
Machinery	49.50	25%	12.37	9.28	6.96	5.22	3.92
Miscellaneous							
Fixed Assets	16.00	10%	1.60	1.44	1.30	1.17	1.05
	<u>155.50</u>		<u>18.97</u>	<u>15.22</u>	<u>12.31</u>	<u>10.04</u>	<u>8.25</u>

Schedule Of Repayment Of Loan And Interest

Details of Interest on Loans & Repayment of Term Loan is given as under :(Rs. in Lacs)

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Term Loan					
Opening Balance	86.00	68.80	51.60	34.40	17.20
Repayments	17.20	17.20	17.20	17.20	17.20
Closing Balance	68.80	51.60	34.40	17.20	-
Cash Credit					
Opening Balance	5.50	5.50	5.50	5.50	5.50

Closing Balance	5.50	5.50	5.50	5.50	5.50
Interest					
On Term Loan	12.00	9.33	6.67	4.00	1.33
On Cash Credit	0.85	0.85	0.85	0.85	0.85
On Unsecured Loan	5.42	5.42	5.42	5.42	5.42
	<u>18.27</u>	<u>15.60</u>	<u>12.94</u>	<u>10.27</u>	<u>7.60</u>

Projected Profitability Statement

Projected Profitability Statement of the unit is shown as under : (Rs. in Lacs)

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
(A) Sales	64.61	76.92	87.9 4	98.97	109.10
(B) Cost of Production					
Raw Material Consumed	2.67	2.88	3.28	3.69	4.09
Power & Fuel	1.80	2.10	2.40	2.70	3.00
Direct Labour & Wages	6.00	7.00	8.00	9.00	10.00
Consumables Stores	1.17	1.37	1.56	1.76	1.96
Repair & Maintenance	0.36	0.42	0.48	0.54	0.60
Other Manufacturing Expenses	0.48	0.56	0.64	0.72	0.80
Packing material	1.44	1.68	1.92	2.16	2.40
Depreciation	<u>18.97</u>	<u>15.22</u>	<u>12.31</u>	<u>10.04</u>	<u>8.25</u>
	32.89	31.23	30.59	30.61	31.10
Add : Opening Stock					
-W.I.P.	-	0.83	0.94	1.08	1.21
-Finished Goods	-	0.39	0.45	0.51	0.57
Less : Closing Stock					
-W.I.P.	0.83	0.94	1.08	1.21	1.35
-Finished Goods	<u>0.39</u>	<u>0.45</u>	<u>0.51</u>	<u>0.57</u>	<u>0.64</u>
	31.67	31.06	30.39	30.42	30.89
(C) Gross Profit (A-B)	32.94	45.86	57.55	68.55	78.21

(D) Interest on

-Term Loan	12.00	9.33	6.67	4.00	1.33
-Working Capital	0.85	0.85	0.85	0.85	0.85
-Unsecured Loans	5.42	5.42	5.42	5.42	5.42

(E) Selling , General &

Administrative Expenses	9.00	10.50	12.00	13.50	15.00
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(F) Preliminary	0.70	0.70	0.70	0.70	0.70
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Expenses W/off

(G) Profit Before Tax	4.97	19.06	31.91	44.08	54.91
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(H) Provision for Tax	1.74	6.67	11.17	15.43	19.22
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(I) Net Profit	3.23	12.39	20.74	28.65	35.69
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(J) Depreciation Added Back	18.97	15.22	12.31	10.04	8.25
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(K) Net cash Accruals	22.20	27.61	33.05	38.69	43.94
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(L) Repayment Obligations

(i) Towards Term Loan	17.20	17.20	17.20	17.20	17.20
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(M) Debt Service

Coverage Ratio	1.30	1.61	1.92	2.25	2.25
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AVG. D.S.C.R.			1.93		
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Projected Cash Flow Statement

Sources and Uses of Funds are shown as under :

(Rs. in Lacs)

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
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(A) Sources of Funds

Net Profit Before Taxes

With Interest added Back	23.24	34.66	44.85	54.35	62.51
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Introduction of Promoters

Contribution & Increase

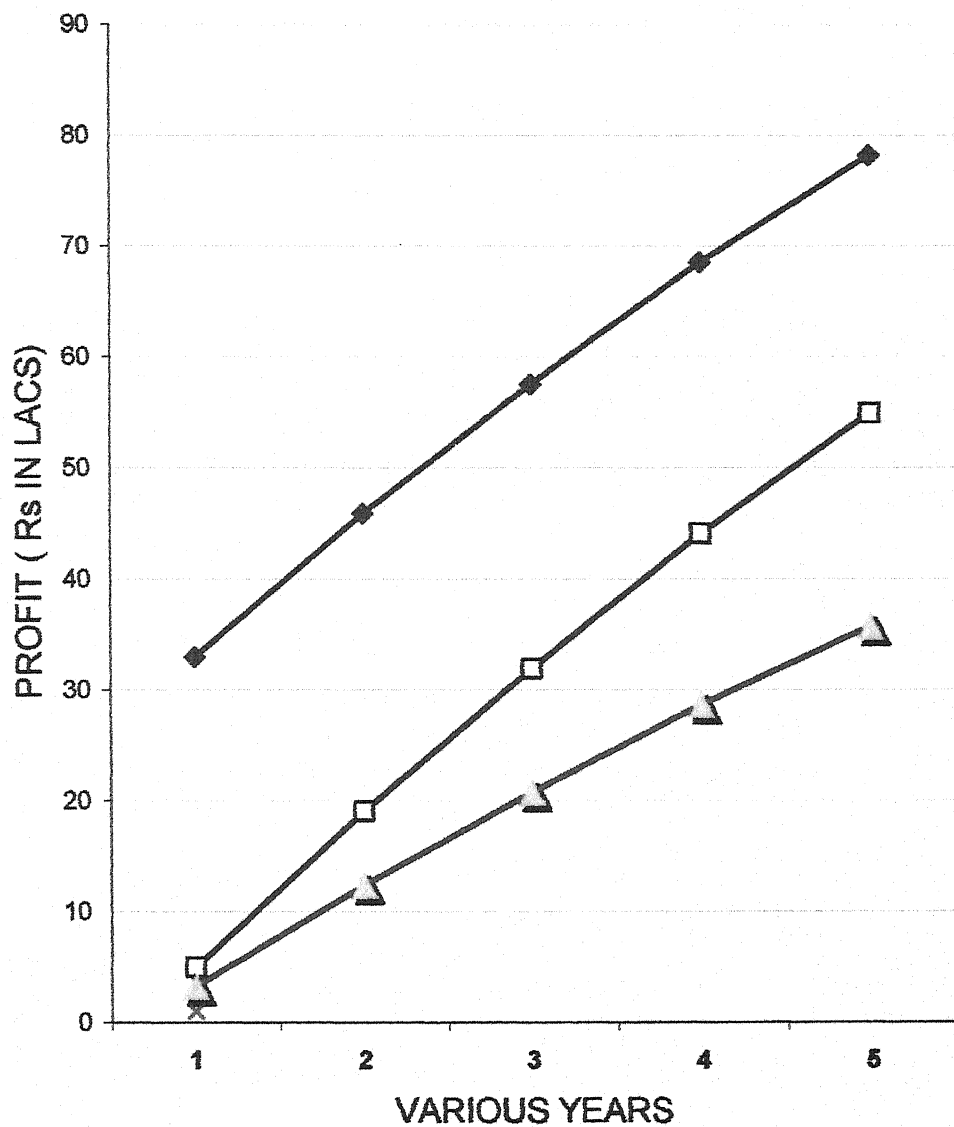
Therein	45.00	-	-	-	-
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Term Loan from Bank/

Financial Institutions	86.00	-	-	-	-
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Unsecured Loan/

PROFIT PROJECTION IN VARIOUS YEARS OF FLORICULTURE INDUSTRY



- ◆ Gross Profit
- Profit Before Tax
- × Net Profit

Public Deposit	30.13	-	-	-	-
Cash Credit	5.50	-	-	-	-
Depreciation	18.97	15.22	12.31	10.04	8.25
Sundry Creditors	0.29	-	0.04	0.04	0.04
Preliminary Expenses W/off	<u>0.70</u>	<u>0.70</u>	<u>0.70</u>	<u>0.70</u>	<u>0.70</u>
	<u>209.83</u>	<u>50.58</u>	<u>57.90</u>	<u>65.13</u>	<u>71.50</u>

(B) Uses of Funds

Preliminary and Preoperative Expenses	3.50	-	-	-	-
Capital Expenditure	155.50	-	-	-	-
Creation of Current Assets and increase therein					
-Inventories	1.46	0.21	0.24	0.23	0.25
-Debtors	6.46	1.23	1.10	1.11	1.01
-Other	-	0.80	1.20	0.50	1.00
Decrease in Term Loan	17.20	17.20	17.20	17.20	17.20
Increase in Investments	-	5.00	7.50	10.00	10.00
Interest	18.27	15.60	12.94	10.27	7.67
Taxation	1.74	6.67	11.17	15.43	19.22
Drawing	<u>0.75</u>	<u>2.40</u>	<u>3.60</u>	<u>4.80</u>	<u>7.20</u>
	<u>204.88</u>	<u>49.11</u>	<u>54.95</u>	<u>59.54</u>	<u>63.48</u>
Opening Balance	-	4.95	6.42	9.37	14.96
Net Surplus	4.95	1.47	2.95	5.59	8.02
Closing Balance	4.95	6.42	9.37	14.96	22.98

Projected Balance Sheet

Projected Balance Sheet of the Unit is shown as under :

(Rs. In Lacs)

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Liabilities					
Promotor's Contribution	45.00	45.00	45.00	45.00	45.00
Reserves & Surplus	2.48	12.47	29.61	53.46	81.95
Term Loan	68.80	51.60	34.40	17.20	-
Cash Credit	5.50	5.50	5.50	5.50	5.50
Unsecured Loans	30.13	30.13	30.13	30.13	30.13
Sundry Creditors	0.29	0.29	0.33	0.37	0.41
	<u>152.20</u>	<u>144.99</u>	<u>144.97</u>	<u>151.66</u>	<u>162.99</u>
Assets					
Gross Block	155.50	155.50	155.50	155.50	155.50
Accumulated Depreciation	18.97	34.19	46.50	56.54	64.79
Net Block	136.53	121.31	109.00	98.96	90.71
Investments	-	5.00	12.50	22.50	32.50
Inventories	1.46	1.67	1.91	2.14	2.39
Sundry Debtors	6.46	7.69	8.79	9.90	10.91
Loans & Advances	-	0.80	2.00	2.50	3.50
Cash & Bank Balance	4.95	6.42	9.37	14.96	22.98
Preliminary Expenses	2.80	2.10	1.40	0.70	-
	<u>152.20</u>	<u>144.99</u>	<u>144.97</u>	<u>151.66</u>	<u>162.99</u>

Schedule Of Effective Sales

Sales at different capacity utilisation is worked out as under :

Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	(60%)	(70%)	(80%)	(90%)	(100%)
Units Produced	1890000	2205000	2520000	2835000	3150000
Add : Opening Stock					
of F.G.	-	44100	51450	58800	66150
	<u>1890000</u>	<u>2249100</u>	<u>2571450</u>	<u>2893800</u>	<u>3216150</u>
Less : Closing Stock					
of F.G.	44100	51450	58800	66150	73500
	<u>1845900</u>	<u>2197650</u>	<u>2512650</u>	<u>2827650</u>	<u>3142650</u>
Rate (in Rs.)	3.50	3.50	3.50	3.50	3.50
Total Sales					
(Amount in Lacs)	<u>64.61</u>	<u>76.92</u>	<u>87.94</u>	<u>98.97</u>	<u>109.10</u>

Schedule Of Raw Material Purchased

Purchased of Raw Material is worked out as under :

Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	(60%)	(70%)	(80%)	(90%)	(100%)
Rose Plants					
Plants Required	54000	63000	72000	81000	90000
Add : Closing Stock					
-Raw Material	5400	6300	7200	8100	9000
-W.I.P	5400	6300	7200	8100	9000
	<u>64800</u>	<u>75600</u>	<u>86400</u>	<u>97200</u>	<u>108000</u>
Less : Opening Stock					
-Raw Material	-	5400	6300	7200	8100
-W.I.P	<u>-</u>	<u>5400</u>	<u>6300</u>	<u>7200</u>	<u>8100</u>
Total Purchase	64800	64800	73800	82800	91800
Rate Per Plant (in Rs.)	4.50	4.50	4.50	4.50	4.50
Total Amount (in Lacs)	<u>2.92</u>	<u>2.92</u>	<u>3.32</u>	<u>3.73</u>	<u>4.13</u>

Schedule Of Raw Material Consumed

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Capacity Utilisation	(60%)	(70%)	(80%)	(90%)	(100%)

Rose Plants

Raw Material Purchased	64800	64800	73800	82800	91800
Add : Opening Stock of R.M -		5400	6300	7200	8100
Less : Closing Stock of R.M	5400	6300	7200	8100	9000
Raw Material Consumed	<u>59400</u>	<u>63900</u>	<u>72900</u>	<u>81900</u>	<u>90900</u>
Rate Per Plant	4.50	4.50	4.50	4.50	4.50
Total Cost of Raw Material	_____	_____	_____	_____	_____
Consumed (In Lacs)	<u>2.67</u>	<u>2.88</u>	<u>3.28</u>	<u>3.69</u>	<u>4.09</u>

Schedule Of Plant & Machinery

Details of Plant & Machinery to be Installed are shown as under :

<u>S.No</u>	<u>Particulars</u>	<u>No.</u>	<u>Amount</u>
1.	Water Storage Tank	1	90,000
2.	Pipes & Fittings with water Sprinkling system, Drip Irrigation system	1	3,25,000
3.	Water Pump 5 H.P. motor	1	20,000
4.	Central Air conditioning system (100 TR Capacity)	1	17,50,000
5.	Air Cooler	8	20,000
6.	Air Heating System with hot air blower		90,000
7.	Air Dehumidifier	5	2,20,000
8.	Equipments for cutting branches		80,000
9.	Tractor		4,00,000
10.	Refrigerated Van		9,00,000
11.	Conveyor Belt 300 mts length for conveying flowers		2,55,000

12.	Automatic flower wrapping Machine & carton filling, Sealing equipment	8,00,000
		<u>49,50,000</u>

Schedule Of Other Fixed Assets

Details of other Fixed Assets to be purchased are given below :

<u>S. No</u>	<u>Particulars</u>	<u>Amount</u>
1.	Office equipments, furniture & fixtures	2,50,000
2.	Installation cost of water, electricity, etc.	2,50,000
3.	Genset	4,00,000
4.	Office Car	2,50,000
5.	Miscellaneous	4,50,000
		<u>16,00,000</u>

Computation Of Ratios

Computation of various ratios are shown as under :

(D) Current Ratio :

	Formula	=	$\frac{\text{Current Asset}}{\text{Current Liabilities}}$	
<u>Years</u>	<u>Current Assets</u>		<u>Current Liabilities</u>	<u>Current Ratio</u>
Ist	12.87		5.79	2.22:1
IIInd	15.78		5.79	2.73:1
IIIrd	20.07		5.83	3.44:1
IVth	27.00		5.87	4.60:1
Vth	36.28		5.91	6.14:1

(E) Interest Coverage Ratio :

$$\text{Formula} = \frac{\text{Profit After Tax + Interest on Term Loan \& Unsecured Loan}}{\text{Interest on Term Loan \& Unsecured Loan}}$$

Years	Profit After Tax	Interest on Term Loan & Unsecured Loan	Total	Interest Coverage Ratio
Ist	3.23	17.42	20.65	1.19
IIInd	12.39	14.75	27.14	1.84
IIIrd	20.74	12.09	32.83	2.72
IVth	28.65	9.42	38.07	4.04
Vth	35.69	6.75	42.44	6.29

(C) Return on Investment :

		$\frac{\text{Profit Before Tax} \times 100}{\text{Capital employed}}$	
Years	Formula = Profit before Tax	Capital Employed	Return on Investment
Ist	4.97	44.68	11.12 %
IIInd	19.06	55.37	34.42 %
IIIrd	31.91	73.21	43.59 %
IVth	44.08	97.76	45.09 %
Vth	54.91	126.95	43.25 %

(F) Pay Back Period :

Years	Profit After Tax	Non Cash Expenses	Cash Inflow	Cumulative Cash Inflow
Ist	3.23	19.67	22.90	22.90
IIInd	12.39	15.92	28.31	51.21
IIIrd	20.74	13.01	33.75	84.96
IVth	28.65	10.74	39.39	124.35
Vth	35.69	8.95	44.64	168.99

Total Cost of Project is Rs. 161.13 lacs

Pay Back period is 4 years and 10 months³

Break Even Point :

(Rs. In lacs)

(F)

		Fixed Cost × Capacity Utilisation			
Formula	=				
		Sales - Variable Cost			
Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	(60%)	(70%)	(80%)	(90%)	(100%)
(B) Fixed Costs					
Preliminary Expenses	0.70	0.70	0.70	0.70	0.70
Adm., Selling &					
Distribution Exp.	6.75	7.87	9.00	10.12	11.25
Interest on Term Loan	12.00	9.33	6.67	4.00	1.33
Interest on Unsecured Loan	5.42	5.42	5.42	5.42	5.42
Depreciation	18.97	15.22	12.31	10.04	8.25
	<u>43.89</u>	<u>38.54</u>	<u>34.10</u>	<u>30.28</u>	<u>26.95</u>
(B) Sales	<u>64.61</u>	<u>76.92</u>	<u>87.94</u>	<u>98.97</u>	<u>109.10</u>
(C) Variable Cost					
Raw Material Consumed	2.67	2.88	3.28	3.69	4.09
Power & Fuel	1.80	2.10	2.40	2.70	3.00
Direct Labour & Wages	6.00	7.00	8.00	9.00	10.00
Consumable Stores	1.17	1.37	1.56	1.76	1.96
Repair & Maintenance	0.36	0.42	0.48	0.54	0.60
Other Manufacturing					
Expenses	0.48	0.56	0.64	0.72	0.80
Interest on Cash Credit	0.85	0.85	0.85	0.85	0.85
Adm., Selling &					
Distribution Exp.	2.25	2.63	3.00	3.38	3.75
Packing Material	1.44	1.68	1.92	2.16	2.40
Add : Opening Stock					
-W.I.P	-	0.83	0.94	1.08	1.21

-Finished Goods	-	0.39	0.45	0.51	0.57
Less : Closing Stock					
-W.I.P	0.83	0.94	1.08	1.21	1.35
-Finished Goods	<u>0.39</u>	<u>0.45</u>	<u>0.51</u>	<u>0.57</u>	<u>0.64</u>
	<u>15.80</u>	<u>19.32</u>	<u>21.93</u>	<u>24.61</u>	<u>27.24</u>
(D) Contribution (B-C)	48.81	57.60	66.01	74.36	81.86
(E) B.E.P.	53.89%	46.84%	41.33%	36.65%	32.92%

Basic Assumptions

This Project Report of Floriculture is Prepared on the following assumptions

- 1) No. of Working days are 300 days per annum and no. of shifts is one per day of 8 hours each.
- 2) Capacity utilization has been assumed as follows :
 - Ist Year 60%
 - IInd Year 70%
 - IIIrd Year 80%
 - IVth Year 90%
 - Vth Year 100%
- 3) Total expenses on Power & Fuel is assumed at Rs. 3.00 Lacs at 100 % capacity utilisation and are assumed to be fully variable.
- 4) Total expenses on Labour & Wages is assumed at Rs. 10.00 Lacs at 100 % capacity utilisation and are assumed to be fully variable.
- 5) Total expenses on Consumable Stores, Repairs & Maintenance and Packing materials and Other manufacturing expenses are assumed at Rs. 1.96 lacs, Rs. 0.60 lacs, and Rs. 2.40 lacs and Rs. 0.80 lacs, respectively at 100 % capacity utilization and are assumed to be fully variable.
- 6) Selling, general & Administrative expenses has been assumed at different capacities as follows.
 - At 60% Rs. 9.00 Lacs
 - At 70% Rs. 10.50 Lacs

At	80%	Rs. 12.00	Lacs
At	90%	Rs. 13.50	Lacs
At	100%	Rs. 15.00	Lacs

75 % of the above expenses are considered as fixed and 25 % as variable at different capacities respectively.

Market Survey

Floriculture is an activity which is spread throughout the world .Cut flower cultivation is taking place in about 145 countries. In India floriculture business has not received due attention till recently. However, floriculture is fast emerging as a source for large exports in a short period. The west enjoys near monopoly position in floriculture business. While Holland is the leader with about 65 percent share in the world market, other countries like Italy, Columbia, Kenya, Israel, etc. Have also taken up floriculture seriously.

The consumption of flowers exceeds Rs. 75,000 crores every year and this is increasing every year. Despite the market being so large, the Indian share in this market is negligible. However, India is now waking up to tap the potential of this business which ideally suits with the climatic, soil and water conditions prevalent in the country. US is the largest consumer of flowers, with about \$11 billion flower consumption in the year ended 2000. India is well placed to meet the international demand for cut-flowers which peaks during winter months. The area under flower cultivation in India is in the range of 30,000 to 40,000 hectares. About half of this area is concentrated in Tamilnadu, Andhra Pradesh and Karnataka.

Floriculture is advantageous because flowers command high value in the market and are profitable, they have high export potential and the internal use of flowers is also rising continually. The domestic floriculture market is expected to grow at an annual rate of 20 to 30 percent.

About 60-70 percent of the total production of rose flowers in the country is used for the production of rose water and smaller quantities are consumed in the preparation of gulkand, hair-oils and altars.

The success of any floriculture project depends largely on the quality of post harvesting techniques, particularly in the case of cut- flowers. Hence, the post-harvest facilities need to be updated so as to ensure that good quality of the output is preserved. The growing export potential for cut-flowers is influencing many Indian companies to consider floriculture as a good business project.

(C) REFINED OILS

Introduction

Edible oil form one of the main ingredients in the preparation of food in the Indian Kitchens. The term vegetable oils and edible oils are synonymous in the Indian context because in this country fats of animal origin is generally not used for cooking purposes.

Edible Oils are a major source of nutrition and provides a great amount of energy, the fatty acids in edible oils are required by the body as a vehicle for carrying vitamins. Vegetable oils are obtained from oil seeds and oil seed crop is one of the prominent crop for the Indian farmers. India occupies a premier position among the oil seeds producing countries of the world. Vegetable oils can be directly used as cooking medium in the form of liquid or they may be used for making refined preparation (refined oils) and hydrogenated preparations (Vanaspati), vegetable oils are also used in various industrial applications in soap, paint, plastic, cosmetic, etc. industries.

Manufacturing Process

In the manufacturing of refined oils for edible purposes, raw oil is subjected to the following processes :

i) Degumming or Deslimming : The raw vegetable oils contain certain impurities like phosphatides, proteins or fragments of protein and gummy substances which are soluble in oil. Degumming or deslimming treatment is given to the oil to remove phosphatides and certain other impurities.

Degumming is done in washers or neutralizers which are cylindrical vessels with conical bottom and open from the top, they are provided with central heating system (steam coils) and a motor drive agitator. The raw oil is fed in this vessel and heated with superheated steam flowing in the coils, to get the uniformity in temperature of the oil stirring is done. Phosphoric acid is then added to the oil and agitation is done for 10-15 minutes, then hot water is added and agitation is again done for 10-15 minutes. Precipitated and hydrated gummy materials are then allowed to settle down. If the phosphatides thus precipitated are desirable product such as for lecithin recovery then they are allowed to settle down for about 3 hours and then drained out from the bottom of

the vessel, otherwise the gummy materials are drained out with the soap stock formed in the neutralization step.

ii) Alkali Refining : Alkali refining is done to remove the free fatty acids from crude oil. Free fatty acids are removed because lower fatty acids are characterized by a disagreeable smell and flavour and the unsaturated fatty acids are sensitive to oxidation, hence diminishes the keeping properties of the product. Free fatty acids also exerts a corrosive action on various metals, thereby resulting in the dark colouration of the oil. Out of the various methods for neutralisation most important and widely applied method is neutralisation with caustic alkali, it is done by the batch process using either strong or weak caustic solutions, the choice of the concentration of alkali depends on various factors.

Neutralisation with caustic soda is carried out in a open or closed cylindrical vessels provided at the top with a device in the form of a spray nozzles for the quick and uniform distribution of the lye, water and other liquids over the surface of the oil.

Most of the vessels are fitted with internal coils for steam heating, some of the vessels are provided with steam jackets around the lower half of the vessels and the cone. The vessels are provided with stirrers, they are usually arranged with variable speed because sometimes slow stirring is required. The vessels are provided with one or two sampling cocks at some distance from the bottom outlet in order to obtain indication of the separation of the layers during setting and draining.

iii) Bleaching : In the bleaching process the removal of the colouring matters is the main objective. The natural colouring matters are mainly coorotene, chlorophyll, xanthophyll which impart to the crude oils their characteristic greenish, yellow, orange shades. In the bleaching process neutralized oil is subjected to a physical method in which the colouring matter and other substances which are suspended in the oil in a colloidal form like traces of soap, resins, gums, etc. are absorbed on the surface of bleaching earths or bleaching carbons. The adsorbents used for bleaching oils are mainly natural and acid activated clays, and to a lesser extent activated carbon.

Oils are bleached in enclosed vessels which are constructed for working under low or high vacuum. The oil is heated by closed steam coils and can be dried under vacuum if

desired before bleaching. The desired amount of adsorbent is drawn into the vacuum bleaching vessel through a pipe at the top. The stirrers revolve rapidly and are so constructed that they prevent any setting of the adsorbent at the bottom of the vessel. In order to enable filtration to be conducted under air pressure the vessels are provided with a pipe line for compressed air. Vessels used for bleaching oil may be either vertical or horizontal in shape.

iv) Deodorisation : Generally some of the flavouring substances are removed during alkali refining and bleaching, but many of these substances are firmly held in the oils and can be removed only by the process of deodorisation.

In the deodorisation process odoriferous matter is removed from the oil by distillation in a current of steam in vacuum and at elevated temperatures, under these conditions neutral fat is not volatile. The vapour pressure of odoriferous compounds is so low that very high temperature is required to dislodge them off at atmospheric pressure, hence the need for a good vacuum and a current of inert gas arises to reduce the distillation temperature below that at which decomposition of the neutral oil might take place.

v) Addition of synthetic antioxidants : After deodorisation, the synthetic antioxidants like butylated hydroxyl toluene, butylated hydroxyl anisol, etc. are added in the cooled refined oil.

Cost Of Project

The Total Cost of Project is proposed to be Rs. 93.36 Lacs, including margin money for working capital amounting to Rs. 30.86 lacs. Details of which are as under :

<u>S.No.</u>	<u>Particulars</u>	<u>Amount (Rs in Lac)</u>
1.	Land & Site Development	8.00
2.	Building	18.00
3.	Plant & Machinery	30.00
4.	Miscellaneous Fixed Assets	5.00
5.	Preliminary & Preoperative Expenses	1.50
6.	Margin Money for working capital	30.86
		<u>93.36</u>

Means Of Finance

The Total Cost of Project Rs. 93.36 as above is Proposed to be Financed as under :

<u>S.No.</u>	<u>Particulars</u>	<u>Amount (Rs in Lac)</u>
1.	Promotor's Contribution	24.00
2.	Term Loan from Bank/Financial Institutions	40.00
3.	Unsecured Loans/Public Deposits	29.36
		<u>93.36</u>

Schedule Of Working Capital Requirement

(Rs. in Lacs)						
<u>Particulars</u>	<u>Duration</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Inventories						
-Raw Materials	30 days	40.50	47.25	54.00	60.75	67.50
-Work in Progress	7 days	10.96	12.57	14.35	16.14	17.96
-Finished Goods	30 days	54.40	62.67	71.78	81.08	90.63
Sundry Debtors	30 days	<u>62.34</u>	<u>79.66</u>	<u>91.20</u>	<u>102.75</u>	<u>114.30</u>
		168.20	202.15	231.33	260.72	190.39
Sundry Creditors	30 days	<u>45.34</u>	<u>47.90</u>	<u>54.58</u>	<u>61.31</u>	<u>68.13</u>
Working Capital						
Requirement		122.86	154.25	176.75	199.41	222.26

Cash Credit Limit	92.00	92.00	92.00	92.00	92.00
Margin Money					
for Working Capital	30.86	62.25	84.75	107.41	130.26

NOTE :

- (1) A Minimum of 30 days of material is required for raw material to be stocked.
- (2) Raw material will take 7 days to reach the shape of finished goods, hence stock of work in progress is kept for 7 days.
- (3) Stock of 30 days will be kept for finished goods.
- (4) Credit Period allowed to customers is 30 days.
- (5) Raw Material will be Purchased on 30 days credit period.
- (6) Cash Credit limit is worked out at 75% of the working Capital Requirement.

Schedule Of Depreciation

Depreciation is calculated on W.D.V. shown as under : (Rs. in Lacs)

Particulars	Amount	Rate	1st year	2nd year	3rd year	4th year	5th year
Land & Site							
Development	8.00	-	-	-	-	-	-
Building	18.00	10%	1.80	1.62	1.46	1.31	1.18
Plant & Machinery	30.00	25%	7.50	5.63	4.22	3.16	2.37
Miscellaneous							
Fixed Assets	5.00	10%	0.50	0.45	0.41	0.36	0.33
	61.00		9.80	7.70	6.09	4.83	3.88

Schedule Of Repayment Of Loan And Interest

(Rs. In lacs)

Details of Interest on Loans and Repayment of Term Loan is given as under :

Particulars	1st year	2nd year	3rd year	4th year	5th year
Term Loan					
Opening Balance	40.00	32.00	24.00	16.00	8.00
Repayments	8.00	8.00	8.00	8.00	8.00
Closing Balance	32.00	24.00	16.00	8.00	-

Cash Credit

Opening Balance	90.00	90.00	90.00	90.00	90.00
Closing Balance	90.00	90.00	90.00	90.00	90.00

Interest

On Term Loan	5.58	4.34	3.10	1.86	0.62
On Cash Credit	14.26	14.26	14.26	14.26	14.26
On Unsecured Loan	5.29	5.29	5.29	3.85	2.41
	<u>25.13</u>	<u>23.89</u>	<u>22.65</u>	<u>19.97</u>	<u>17.29</u>

Projected Profitability Statement

Projected Profitability Statement of the unit is shown as under :

(Rs. in Lacs)

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
(A) Sales	623.43	796.60	912.05	1027.50	1142.95
(B) Cost of Production					
Raw Material Consumed	412.88	472.28	539.09	606.37	674.56
Power & Fuel	30.00	35.00	40.00	45.00	50.00
Direct Labour & Wages	21.00	24.50	28.00	31.50	35.00
Consumables Stores	24.00	28.00	32.00	36.00	40.00
Repair & Maintenance	12.00	14.00	16.00	18.00	20.00
Other Manufacturing Expenses	27.00	31.50	36.00	40.50	45.00
Depreciation	<u>9.80</u>	<u>7.70</u>	<u>6.09</u>	<u>4.83</u>	<u>3.88</u>
	536.08	612.98	697.18	782.20	868.44
Add : Opening Stock					
-W.I.P.	-	10.96	12.57	14.35	16.14
-Finished Goods	-	54.40	62.67	71.78	81.08
Less : Closing Stock					
-W.I.P.	10.96	2.57	14.35	16.14	17.96
-Finished Goods	<u>54.40</u>	<u>62.67</u>	<u>71.78</u>	<u>81.08</u>	<u>90.63</u>
	<u>471.32</u>	<u>603.10</u>	<u>686.29</u>	<u>771.11</u>	<u>857.07</u>

C) Gross Profit (A-B)	152.11	193.50	225.76	256.39	285.88
(D) Interest on					
-Term Loan	5.58	4.34	3.10	1.86	0.62
-Working Capital	14.26	14.26	14.26	14.26	14.26
-Unsecured Loans	5.29	5.29	5.29	3.85	2.41
(E) Selling , General & Administrative Expenses	57.00	71.25	89.06	111.33	139.16
(F) Preliminary Expenses W/off	0.30	0.30	0.30	0.30	0.30
(G) Profit Before Tax	69.68	98.06	113.75	124.79	129.13
(H) Provision for Tax	24.39	34.32	39.81	43.63	45.19
(I) Net Profit	45.29	63.94	73.94	81.16	83.94

Projected Cash Flow Statement

Sources and Uses of Funds are shown as under :

(Rs. in Lacs)

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
(A) Sources of Funds					
Net Profit Before Taxes					
With Interest added Back	94.81	121.95	136.40	144.76	146.42
Introduction of Promoters Contribution & Increase					
Therein	24.00	-	-	-	-
Term Loan from Bank/ Financial Institutions	40.00	-	-	-	-
Unsecured Loan/ Public Deposit	29.36	-	-	-	-
Cash Credit	92.00	-	-	-	-
Depreciation	9.80	7.70	6.09	4.83	3.88

Sundry Creditors	45.34	2.56	6.68	6.73	6.82
Preliminary Expenses W/off	<u>0.30</u>	<u>0.30</u>	<u>0.30</u>	<u>0.30</u>	<u>0.30</u>
	<u>335.61</u>	<u>132.51</u>	<u>149.47</u>	<u>156.62</u>	<u>157.42</u>

(B) Uses of Funds

Preliminary and

Preoperative Expenses	1.50	-	-	-	-
Capital Expenditure	61.00	-	-	-	-

Creation of Current

Assets and increase therein

Inventories	105.86	16.63	17.64	17.84	18.12
Debtors	62.34	17.32	11.54	11.55	11.55
Decrease in Term Loan	8.00	8.00	8.00	8.00	8.00
Decrease in Unsecured Loan	-	-	8.00	8.00	10.00
Increase in Investments	10.00	15.00	15.00	15.00	20.00
Interest	25.13	23.89	22.65	19.97	17.29
Taxation	24.39	34.32	39.81	43.63	45.19
Drawing	<u>10.00</u>	<u>12.00</u>	<u>14.50</u>	<u>16.00</u>	<u>18.00</u>
	<u>302.22</u>	<u>127.16</u>	<u>137.14</u>	<u>139.99</u>	<u>148.15</u>

Opening Balance	-	27.39	32.74	45.07	61.70
Net Surplus	27.39	5.35	12.33	16.63	9.27
Closing Balance	27.39	32.74	45.07	61.70	70.97

Projected Balance Sheet

Projected Balance Sheet of the Unit is shown as under :

(Rs. In Lacs)

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Liabilities					
Promotor's Contribution	24.00	24.00	24.00	24.00	24.00
Reserves & Surplus	35.29	87.03	146.47	211.63	277.57
Term Loan	32.00	24.00	16.00	8.00	-

Cash Credit	92.00	92.00	92.00	92.00	92.00
Unsecured Loans	29.36	29.36	21.36	13.36	3.36
Sundry Creditors	45.34	47.90	54.58	61.31	68.13
	<u>257.99</u>	<u>304.29</u>	<u>354.41</u>	<u>410.30</u>	<u>465.06</u>

Assets

Gross Block	61.00	61.00	61.00	61.00	61.00
Accumulated Depreciation 9.80	17.50	23.59	28.42	32.30	
Net Block	51.20	43.50	37.41	32.58	28.70
Investments	10.00	25.00	40.00	55.00	75.00
Inventories	105.86	122.49	140.13	157.97	176.09
Sundry Debtors	62.34	79.66	91.20	102.75	114.30
Cash & Bank Balance	27.39	32.74	45.07	61.70	70.97
Preliminary Expenses	<u>1.20</u>	<u>0.90</u>	<u>0.60</u>	<u>0.30</u>	<u>-</u>
	<u>257.99</u>	<u>304.29</u>	<u>354.41</u>	<u>410.30</u>	<u>465.06</u>

Schedule Of Sales

Sales at different capacity utilization is worked out as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Cotton Seed Oil					
Production	900	1050	1200	1350	1500
Add : Opening Stock	-	90	105	120	135
Less : Closing Stock	<u>90</u>	<u>105</u>	<u>120</u>	<u>135</u>	<u>150</u>
Sales (In MT)	<u>810</u>	<u>1035</u>	<u>1185</u>	<u>1335</u>	<u>1485</u>
Amount (in Lacs) (A)	324.00	414.00	474.00	534.00	594.00
Rs. 40000 Per MT	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Ground Nut Oil					
Production	300	350	400	450	500
Add : Opening Stock	-	30	35	40	45
Less : Closing Stock	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>
Sales (In MT)	<u>270</u>	<u>345</u>	<u>395</u>	<u>445</u>	<u>495</u>

Amount (in Lacs) (B)	113.40	144.90	165.90	186.90	207.90
Rs. 42000 Per MT					
Safflower Oil					
Production	300	350	400	450	500
Add : Opening Stock	-	30	35	40	45
Less : Closing Stock	30	35	40	45	50
Sales (In MT)	270	345	395	445	495
Amount (in Lacs) (C)	99.90	127.65	146.15	164.65	183.15
Rs. 37000 Per MT					
Sunflower Oil					
Production	300	350	400	450	500
Add : Opening Stock	-	30	35	40	45
Less : Closing Stock	30	35	40	45	50
Sales (In MT)	270	345	395	445	495
Amount (in Lacs) (D)	75.60	96.60	110.60	124.60	138.60
Rs. 28000 Per MT					
Soap Stock (By-Product)					
Production	180	210	240	270	300
Add : Opening Stock	-	18	21	24	27
Less : Closing Stock	18	21	24	27	30
Sales (In MT)	162	207	237	267	297
Amount (in Lacs) (E)	10.53	13.45	15.40	17.35	19.30
Rs. 6500 Per MT					
Total Sales (A+B+C+D+E)	623.43	796.60	912.05	1027.50	1142.95

Schedule Of Raw Material Consumed

Raw Materials Consumed at different capacity utilization are worked out as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Cotton Seed Oil					
Raw Material Purchased	1007	1064	1214	1363	1513
Add : Opening Stock of R.M. -	90	105	120	135	150
Less : Closing Stock of R.M. 90					
Raw Material Consumed (in MT)	917	1049	1199	1348	1498
(In Lacs) Rs.					
22000 Per MT (A)	201.74	230.78	263.78	296.56	329.56
Ground Nut Oil					
Raw Material Purchased	336	355	404	454	505
Add : Opening Stock of R.M. -	30	35	40	45	50
Less : Closing Stock of R.M. 30					
Raw Material Consumed (in MT)	306	350	399	449	500
(In Lacs) Rs. 23000					
Per MT (B)	70.38	80.50	91.77	103.27	115.00
Sunflower Oil					
Raw Material Purchased	336	355	404	454	505
Add : Opening Stock of R.M. -	30	35	40	45	50
Less : Closing Stock of R.M. 30					
Raw Material Consumed (in MT)	306	350	399	449	500
(In Lacs) Rs. 23000					
Per MT (C)	70.38	80.50	91.77	103.27	115.00

SAFFLOWER OIL

Raw Material Purchased	336	355	404	454	505
Add : Opening Stock of R.M.	-	30	35	40	45
Less : Closing Stock of R.M.	30	35	40	45	50
Raw Material Consumed	<u>306</u>	<u>350</u>	<u>399</u>	<u>449</u>	<u>500</u>
(in MT)					
(In Lacs) Rs. 23000	<u>70.38</u>	<u>80.50</u>	<u>91.77</u>	<u>103.27</u>	<u>115.00</u>
Per MT (D)					
Total Raw Material Consumed (A+B+C+D)	<u>412.88</u>	<u>472.28</u>	<u>539.09</u>	<u>606.37</u>	<u>674.56</u>

Schedule Of Raw Material Purchased

Purchases of Raw Material is worked out as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Cotton Seed Oil					
Raw Material Required	896	1046	1195	1345	1494
Add : Closing Stock					
-W.I.P	21	24	28	31	35
- Raw Material	90	105	120	135	150
Less : Opening Stock					
-W.I.P	-	21	24	28	31
- Raw Material	-	90	105	120	135
Raw Material Purchased	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
(In M.T.)	<u>1007</u>	<u>1064</u>	<u>1214</u>	<u>1363</u>	<u>1513</u>
(In Lacs)Rs.22000	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Per M.T. (A)	<u>221.54</u>	<u>234.08</u>	<u>267.08</u>	<u>299.86</u>	<u>332.86</u>
Ground Nut Oil					
Raw Material Required	299	349	398	448	498
Add : Closing Stock					
-W.I.P	7	8	9	10	12

- Raw Material	30	35	40	45	50
Less : Opening Stock					
- W.I.P	-	7	8	9	10
- Raw Material	-	30	35	40	45
Raw Material Purchased	<u>336</u>	<u>355</u>	<u>404</u>	<u>454</u>	<u>505</u>
(In M.T.)					
(In Lacs)Rs.23000					
Per M.T. (B)	<u>77.28</u>	<u>81.65</u>	<u>92.92</u>	<u>104.42</u>	<u>116.15</u>

Sunflower Oil

Raw Material Required	299	349	398	448	498
Add : Closing Stock					
- W.I.P	7	8	9	10	12
- Raw Material	30	35	40	45	50
Less : Opening Stock					
- W.I.P	-	7	8	9	10
- Raw Material	-	30	35	40	45
Raw Material	<u>336</u>	<u>355</u>	<u>404</u>	<u>454</u>	<u>505</u>
Purchased (In M.T.)					
(In Lacs)Rs.23000					
Per M.T. (C)	<u>77.28</u>	<u>81.65</u>	<u>92.92</u>	<u>104.42</u>	<u>116.15</u>

Safflower Oil

Raw Material Required	299	349	398	448	498
Add : Closing Stock					
- W.I.P	7	8	9	10	12
- Raw Material	30	35	40	45	50
Less : Opening Stock					
- W.I.P	-	7	8	9	10
- Raw Material	-	30	35	40	45
Raw Material	<u>336</u>	<u>355</u>	<u>404</u>	<u>454</u>	<u>505</u>

Purchased (In M.T.)	<u>336</u>	<u>355</u>	<u>404</u>	<u>454</u>	<u>505</u>
(In Lacs)Rs.23000					
Per M.T. (D)	<u>77.28</u>	<u>81.65</u>	<u>92.92</u>	<u>104.42</u>	<u>116.15</u>
Total Raw Material					
purchased	<u>453.38</u>	<u>479.03</u>	<u>545.84</u>	<u>613.12</u>	<u>681.31</u>
(A+B+C+D)					

Schedule Of Closing Stock Of Raw Material

Closing Stock of Raw Material at different capacity utilization is worked out as under :

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Cotton Seed Oil					
Qty. (In M.T.)	90	105	120	135	150
Rs. 22000 Per M.T.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
(Amount in Lacs) (A)	<u>19.80</u>	<u>23.10</u>	<u>26.40</u>	<u>29.70</u>	<u>33.00</u>
Ground Nut Oil					
Qty. (In M.T.)	30	35	40	45	50
Rs. 23000 Per M.T.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
(Amount in Lacs) (B)	<u>6.90</u>	<u>8.05</u>	<u>9.20</u>	<u>10.35</u>	<u>11.50</u>
Sunflower Oil					
Qty. (In M.T.)	30	35	40	45	50
Rs. 23000 Per M.T.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
(Amount in Lacs) (C)	<u>6.90</u>	<u>8.05</u>	<u>9.20</u>	<u>10.35</u>	<u>11.50</u>
Safflower Oil					
Qty. (In M.T.)	30	35	40	45	50
Rs. 23000 Per M.T.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
(Amount in Lacs) (D)	<u>6.90</u>	<u>8.05</u>	<u>9.20</u>	<u>10.35</u>	<u>11.50</u>
Total (A+B+C+D)	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
(Amount in Lacs)	<u>40.50</u>	<u>47.25</u>	<u>54.00</u>	<u>60.75</u>	<u>67.50</u>

Schedule Of Plant & Machinery

Details of Plant & Machinery to be Installed are shown as under :

<u>S. No</u>	<u>Particulars</u>	<u>No.</u>	<u>Amount (Rs in Lacs)</u>
Refining			
1.	Neutraliser cap. 4 M.T. (M.S.)	1	1.00
2.	Pumps cap. 2tons/hr.	2	0.25
3.	Storage for hot water cap. 1000 Lt.	1	0.15
4.	Caustic Soda dissolving tank (M.S.) cap.1000 Lt.	1	0.15
5.	Vacuum Bleacher cap. 2 M.T.	1	0.85
6.	Storage tank for bleached oil cap. 2.5 M.T. (M.S.)	2	0.60
7.	Storage tank for neutralized oil cap. 2.5 M.T. (M.S.)	2	0.60
8.	Tank for soap stock cap. 5 M.T.	1	0.30
9.	Filter Press (Plate & Frame type) cap. 1000 kg/hrs.	2	0.50
10.	Centrifuge cap. 1000 kg/hrs.	1	0.70
Oil Receiving & Storage			
11.	Weigh Scale cap. 15 M.T.	1	1.20
12.	Pumps cap. 2 tons/hr.	2	0.30
13.	Weigh tank cap.15 M.T.	1	2.25
14.	Under ground tank cap. M.T.	1	2.25
15.	Storage tanks for crude oil cap. 2.5 M.T. (M.S.)	4	6.00
Deodorisation			
16.	Vacuum Pump	2	1.40
17.	Deodoriser (M.S.) cap. 4 M.T.	1	1.50
18.	Pumps cap. 2 M.T./hr.	2	0.30
19.	Vacuum Cooler for deodorized oil	1	0.75
20.	Steam ejector & booster (two stage)	1	0.80

21.	Filter press (Plate & Frame type) for deodorized oil cap. 2 tons/hr	1	0.30
22.	Storage tanks for deodorized oil cap. 2.5 M.T.	2	1.00

Packing & finishing

23.	Filling & Sealing Unit cap. 1 M.T./hr	1	0.50
24.	Wooden Vats cap. 1 M.T.	2	0.50
25.	Storage tank for dil. H ₂ SO ₄ cap. 1000 Kg. (M.S.) glass lined	2	0.80
26.	Storage tank for conc. H ₂ SO ₄ cap. 1 M.T. (M.S.) glass lined	1	0.40
27.	Pumps	1	0.15

General Service

28.	Vacuum pump for bleacher	1	1.00
29.	Air compressor	2	0.40
30.	Boiler plant cap. 500 kg/hr	1	1.50
31.	Generator cap. 25 KVA	2	1.60
			<hr/> 30.00

Other Fixed Assets

List of Other Fixed Assets to be Purchased are shown as under :

<u>S.No</u>	<u>Particulars</u>	<u>Amount (Rs in (Lacs)</u>
1.	Office Equipments, Furniture & Other Equipments and Accessories	2.50
2.	Pipe Fittings, Valves, etc.	1.00
3.	Laboratory Apparatus & Equipments	1.50
		<hr/> 5.00

Computation Of Ratios

Computation of various ratios are shown as under :

(G)Current Ratio :

$$\text{Formula} = \frac{\text{Current Asset}}{\text{Current Liabilities}}$$

<u>Years</u>	<u>Current Assets</u>	<u>Current Liabilities</u>	<u>Current Ratio</u>
Ist	195.59	137.34	1.42
IIInd	234.89	139.90	1.68
IIIrd	276.40	146.58	1.89
IVth	322.42	153.31	2.10
Vth	361.36	160.13	2.26

(H) Interest Coverage Ratio :

$\text{Formula} = \frac{\text{Profit After Tax} + \text{Interest on Term Loan \& Unsecured Loan}}{\text{Interest on Term Loan \& Unsecured Loan}}$				
<u>Years</u>	<u>Profit After Tax</u>	<u>Interest on Term Loan & Unsecured Loan</u>	<u>Total</u>	<u>Interest Coverage Ratio</u>
Ist	45.29	10.87	56.16	5.17
IIInd	63.74	9.63	73.37	7.62
IIIrd	73.94	8.39	82.33	9.81
IVth	81.03	5.71	86.74	15.19
Vth	83.94	3.03	86.97	28.70

(C) Return on Investment :

$\text{Formula} = \frac{\text{Profit Before Tax} \times 100}{\text{Capital employed}}$			
<u>Years</u>	<u>Profit before Tax</u>	<u>Capital Employed</u>	<u>Return on Investment</u>
Ist	69.68	58.09	120.00 %
IIInd	98.06	110.13	89.04 %
IIIrd	113.75	169.87	66.96 %
IVth	124.79	235.20	53.00 %
Vth	129.13	301.44	42.84 %

(D) Pay Back Period :

<u>Years</u>	<u>Profit After Tax</u>	<u>Non Cash Expenses</u>	<u>Cash in Flow</u>	<u>Cumulative Cash Inflow</u>
Ist	45.29	10.10	55.39	55.39
IIInd	63.74	8.00	71.74	127.13

IIIrd	73.94	6.39	80.33	207.46
IVth	81.16	5.13	86.29	293.75
Vth	83.94	4.18	88.12	381.87

The Total Cost of Project is Rs. 93.38 Lacs

Pay Back period is 1 years and 3.5 months

(G) Break Even Point :

$$\text{Formula} = \frac{\text{Fixed Cost} \times \text{Capacity Utilisation}}{\text{Contribution}}$$

<u>Particulars</u>	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year</u>
Capacity Utilisation	(60%)	(70%)	(80%)	(90%)	(100%)
(A) Fixed Costs					
Interest on Term Loan	5.58	4.34	3.10	1.86	0.62
Interest on Unsecured Loan	5.29	5.29	5.29	5.29	5.29
Depreciation	9.80	7.70	6.09	4.83	3.88
75% Selling & General Exp.	42.75	53.44	66.80	83.50	104.37
Preliminary Expenses	0.30	0.30	0.30	0.30	0.30
	<u>63.72</u>	<u>71.07</u>	<u>81.58</u>	<u>95.78</u>	<u>114.46</u>
(B) Sales	623.43	796.60	912.05	1027.50	1142.95
(C) Variable Cost					
Raw Material Consumed	412.88	472.28	539.09	606.37	674.56
Power & Fuel	30.00	35.00	40.00	45.00	50.00
Direct Labour & Wages	21.00	24.50	28.00	31.50	35.00
Consumable Stores	24.00	28.00	32.00	36.00	40.00
Repair & Maintenance	12.00	14.00	16.00	18.00	20.00
Other Manufacturing Expenses	27.50	31.50	36.00	40.50	45.00

Interest on Cash Credit	14.26	14.26	14.26	14.26	14.26
25% Selling & General Overheads	14.25	17.81	22.26	27.83	34.79
	<u>555.89</u>	<u>637.35</u>	<u>727.61</u>	<u>819.46</u>	<u>913.61</u>
Add : Opening Stock					
-W.I.P	-	10.96	12.57	14.35	16.14
-Finished Goods	-	54.40	62.57	71.78	81.08
Less : Closing Stock					
-W.I.P	10.96	12.57	14.35	16.14	17.96
-Finished Goods	<u>54.40</u>	<u>62.57</u>	<u>71.78</u>	<u>81.08</u>	<u>90.63</u>
	<u>490.53</u>	<u>627.57</u>	<u>716.62</u>	<u>808.37</u>	<u>902.24</u>
(D) Contribution (B-C)	132.90	169.03	195.43	219.13	240.71
(E) B.E.P.	28.77%	29.43%	33.40%	39.34%	47.55%

Basic Assumptions

This Project Report of Refined Oils is Prepared on the following assumptions

- 1) No. of Working days is 300 days per annum and no of shifts is one per day of 8 hours each.
- 2) Capacity utilization has been assumed as follows :
 - Ist Year 60%
 - IIInd Year 70%
 - IIIrd Year 80%
 - IVth Year 90%
 - Vth Year 100%
- 3) Total expenses on Power & Fuel is assumed at Rs. 50.00 lacs at 100 % capacity utilisation and are assumed to be fully variable.
- 4) Total expenses on Labour & Wages is assumed at Rs. 35.00 lacs at 100 % capacity utilisation and are assumed to be fully variable.

5) Total expenses on Consumable Stores, Repairs & Maintenance and Other Manufacturing expenses are assumed at Rs. 40.00 lacs, Rs. 20. lacs, and Rs. 45.00 lacs respectively at 100 % capacity utilization and are assumed to be fully variable.

6) Selling, general & Administrative expenses has been assumed at different capacities as follows.

At	60%	Rs. 57.00	Lacs
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At	70%	Rs. 71.25	Lacs
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At	80%	Rs. 89.06	Lacs
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At	90%	Rs. 111.33	Lacs
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At	100%	Rs. 139.16	Lacs
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75 % of the above expenses are considered as fixed and 25 % as variable at different capacities respectively.

CHAPTER-V

AGRO-BASED INDUSTRIES OF DISTRICT JALAUN

THE SPICE INDUSTRY

The story of Indian Spices goes back to 7000 years into the past. It is a chequered history of lapses, discovery or destroyed, kingdoms built or brought down, wars won or lost, treaties signed or flouted. Inevitable, ancient as history is, Indian Spices hold the same spell. The history and culture of Indian Spices is as ancient as Indian civilisation itself. The Vedic, the Buddhist and the Muslim era all connect with references

CHAPTER-V

AGRO-BASED INDUSTRIES OF DISTRICT JALAUN

CHAPTER-5

AGRO-BASED INDUSTRIES OF DISTRICT JALAUN

5.1 Sample Units of The District :-

As it has already been stated that in the district there are many agro-based industries. In the district mostly Oil Mills, Dal Mills, Flour Mills, Spices Industries, Bakery Industries, Hand Made Paper Industry, Seed Processing Industries and Food Products Industries etc. are established.

For analyzing the inns and outs of the agro-based industries the sample units have been taken. Samples have been drawn using stratified random sampling technique. For analysing the various factors related to the industries, two industries; situated in the district Jalaun have been selected and the intense study has been made. Proper discussion has been made with the owner and the responsible management of the industries. Discussion on various matters related to production process, management, marketing, finance, existence of labour and labour problems has been made. The two industries selected are Spices industry and the Flour Mill.

The name of selected spices industry is “**SUN FOOD KHADI GRAM UDYOGIC SAMITI**” and the name of the flour mill is “**ORAI FLOUR MILL**”.

The details of the above two industries are as follows:

THE SPICE INDUSTRY

(Sun Food Khadi Gram Udyogic Samiti)

Introduction

The story of Indian Spices dates back to 7000 years into the past. It is a chequered history of lands, discovered or destroyed, kingdoms built or brought down, wars won or lost, treaties signed or flouted, favours sought or offered. Today Indian Spices hold the same spell. The history and culture of Indian spices is probably as old as human civilization itself. The Vedas, the Bible and the Quran are all replete with references –

direct or indirect – to Indian spices. The earliest literary record in India on spices is the Rig Veda (around 6000 BC), and the other three Vedas – Yajur, Sama and Atharva.

India is called the land of spices, where it grows over 50 different varieties of spices. Total production is around 2.7 million tonnes. Of this about 0.25 million tonnes (8-10 per cent) is exported to more than 150 countries. The Indian share of the world trade in spices is about 45-50 per cent by volume (25 per cent in value terms). Within the past one decade the international trade in spices has grown by leaps and bounds. An estimated 500,000 tonnes of spices and herbs valued at 1500 million US dollars are now imported globally every year. An impressive 46% of this supply comes from India. India's exports of spice extracts have shown spectacular growth attaining over 50 percent of the global market within a short span. In the world of spices and herbs, India plays a pivotal role. More than 52 spices and herbs are grown in our country. Our annual production is two million tons. This nature's bounty has enabled us to contribute the lion's share in spices and herbs in the international market.

Over the past decade, the Indian Spices industry has made quality the cutting edge of its global game plan. In recent years, export of Indian Spices has been taking giant leaps. The Indian export of spices has crossed the 450 million US dollar mark during 1999-2000 and has reached 468 million US dollar. This remarkable achievement is born of a sea change in the industry scenario. From traditional commodity exports, Indian Spices have evolved into a state-of-the-art industry. Absorbing technology, broad basing its products range, developing value added products, identifying niche markets, forging strategic alliances clinching global collaborations and joint ventures.

Currently, India's spice export amounts to 40 per cent of global spice trade in quantity and 19.5 percent in value equivalent to 2,20,000 tons in quantity and US \$ 340 million in value. This reveals India's leadership in the trade. Our export spectrum is led by pepper followed in the order by chillies, spice oils and other spices. Since, the inception of the spices board in 1987, several quality improvement measures have been adopted with close interaction with the exporting community represented by the All India Spices Exporters Forum. In this era of fast changing world economy, closer co-operation is vital between trading partners globally. As a member of WTO, each country becomes part of the global economy and so quality concerns and trade barriers are to be well

disseminated and debated to have a better understanding of all concerned for faster development in each sector.

Now the spice industry is focusing on the major concerns of the trade such as pesticide residues, mycotoxins, heavy metals, microbial contamination etc. A business plan is underway to tackle these quality issues in collaboration with the world organizations. In addition, dissemination of information on these issues to farmers and training programmes at the grass root level are in progress. This will lead to an assured source of excellent raw material. Our ultimate goal is to deliver 'clean spices' rather than 'cleaned' spices, towards this end; organic farming of spices is a major initiative.

Further, spices and herbs are building blocks to a series of value added derivatives – such as spice oils, oleoresins, food colours, mint oils, hydroxycitric acid, ground spices, curry powders, freeze dried green pepper, dehydrated pepper, green and pink pepper in brine. We have the expertise and world class facilities to manufacture all these products which now dominate the international market. This has completely changed the scenario in the processed food, nutraceutical and perfumery industries. Eco-farming is widely practiced and popularized in India with the availability of bio pesticides, bio agents and organic manures. India is capable of supplying a wide range of organically grown spices from white pepper to vanilla and spice products from tamarind paste to vanilla powder/butter. Organic herbs commercially cultivated in India are Basil, Rosemary, Mint, Thyme, Bay Leaf, Oregano & Sage and are used for culinary purposes and medicinal/cosmetic applications. The rich and varied agro-climatic condition/zones in India offers vast scope for commercial production of a variety of herbs from Mint to Parsley to Oregano. New uses of spices in pharmaceutical and cosmetic industries, a pioneering research unit, has developed spice extracts said to be effective in fighting cancer, cataracts and other diseases. Extracts of some spices have also been found useful as pesticides

In 1990-91, total exports of all commodities amounted to Rs. 43187 crores. While exports of all agricultural commodities amounted to Rs. 6017 crores contributing 13.93 % to the total, the share of spices was a mere Rs. 242 crores at 0.56 %. The share of spices in the export of agricultural products alone was 4.02 %. However, with in just six years in 1996-97 total exports from the country reached Rs. 117525 crores, an increase of 172 %.

Exports of all agricultural products increased by 299 % to Rs. 23988 cores now contributing 20.41 % to the total. But during the same period, export of spices went up by 388 %, crossed the magical figure of Rs. 1000 crores to reach Rs. 1180 crores, now contributing 5.16% of agricultural and 1 % of all exports from the country.

Spices :

Spices are the buds, bark, roots, berries and aromatic seeds that are harvested for use in flavouring cooking. Herbs are the leaves of plants, so when we use coriander leaf we refer to it as a herb, however when we use coriander seed we say we are using a spice. Even the tiny filaments of saffron are referred to as a spice. Saffron is the stigma which is hand plucked from a small mauve crocus native to Kashmir, India. Typical examples of spices are cloves (buds), cinnamon (bark), turmeric (root), peppercorns (berries), vanilla (the bean from a tropical orchid vine) and cumin, coriander, dill and fennel (seeds) to mention just a few.

Spices Come From :

Most spices are grown in the tropical regions of the world, with some thriving in the cool misty highlands. Many of the seed spices come from more temperate areas in India, Africa and the wheat producing areas of South Australia and Western New South Weles.

Spices Are Harvested As :

The majority of spices are still harvested in the way they have been for centuries, by hand! Most of the developments in the spice industry have been with respect to growing and post harvest treatment such as grading and cleaning.

Spices Are Flavoured By :

Through spices, nature provides an incredible variety of colours, textures, aromas and flavours that add interest and depth to our meals. The many and varied flavours in spices are held in the volatile oils that naturally occur in spices. Some of these flavours are apparent in the fresh spice, for example in ginger. Other spices either change or only

develop their true flavour on drying. One dramatic example is vanilla, a green tasteless bean that grows on a tropical climbing orchid. It is only after drying and curing that the enzyme reactions which take place actually form the vanilla flavour. In a similar manner, when peppercorns are picked green, the enzyme reaction that occurs upon drying turns them black and creates the pepper flavour.

The Best Ways To Storage Spices :

Because the flavours in spices and culinary herbs are held in the volatile oils, it is essential that they are stored in the correct way so that the flavours do not escape. Firstly, spices must be packaged in high-barrier, good quality materials. This applies to all spices whether whole or ground, however the quality of the package is most critical for ground spices as the grinding process has begun the release of flavour – that is why ground spices are often more convenient to use. Spices should never be packed in thin plastic bags, cellophane packs or cardboard canisters. These packages all allow the volatile oils and thus the flavour to escape.

Storage & Packing :

Spice product has to be packed in a top quality, high barrier bag with a reasonable zip seal, so make sure that it is always properly zipped closed after use. Alternatively, one can pack spices in an attractive glass jar which features a top quality metal cap with a compound seal to keep the flavour in. Ground spices lose their flavour quicker than whole spices. Spices are to be packed (ground spices) as soon as possible after grinding, to seal in the freshest flavour. Herbs and spices will fade in bright light, especially sunlight. Delicate herbs such as chives are particularly sensitive, and should be kept in a cupboard for the best colour retention.

Spices has to be dehydrated. So a wet spoon should never be used to measure the spice from the pack. If it is so done, the moisture will affect the product it touches, and cause hard clumps to form. If the weather is extra hot and humid, it might even cause mould.

Spices Should Be Used As :

Often and with enjoyment! When we have a basic understanding of the various spice flavours and how they compliment different foods, we can use our own creativity and taste instincts to experiment with a whole range of combinations. There are also some simple application methods which, depending on our level of confidence and how busy we are, make the daily use of spices rewarding and satisfying.

Main Spice Flavours :

Spices can be grouped into five basic categories. These are; sweet, pungent, tangy, hot, and amalgamating. The way we use these and the amounts we put into cooking are governed by these characteristics. Examples of the different types of spices are;

Sweet: cinnamon, allspice, nutmeg, vanilla

Pungent: cloves, star anise, cardamom

Tangy: ginger, tamarind, sumach, kokam

Hot: pepper, chilli, mustard, horseradish

Amalgamating: coriander seed, fennel seed.

Then most of the herbs (such as thyme, sage, marjoram, oregano, bay leaves, mint and rosemary) are referred to as savoury. The herbs do have varying degrees of flavour intensity, however not as dramatic as with spices.

Spices constitute an important group of agricultural commodities which are virtually indispensable in the culinary art. They can be primarily defined as farm products used in various forms viz; fresh, ripe, dried, broken, powdered etc. which contributes aroma, taste, flavour, colour and pungency to food, rather than a lone food seasoning factor. Spices may be either bark, buds, flowers, fruits, leaves, rhizomes, roots, seeds, stigmas and styles or the entire plant tops. They are well known as appetizers or preservatives and many of them have rich medicinal properties and are used in pharmaceutical, perfumery, cosmetic products, religious rituals etc.

THE FLOUR MILL (Orai Flour Mill)

Introduction

In the present age the needs and habits of people have changed so much that they do not find sufficient time to do the daily work in the old fashion. Therefore a big demand for food products for easy preparation of good hygienic at a reasonable cost exists. It is needless to say that the first basic requirement is that of Atta, Maida & Suji, which are prepared by screening and grinding of wheat. It is understandable that screening and grinding by hand or by power operated chakkies is a time consuming process, but if these wheat products are easily available then a lot of time and work will be saved. To support this cause, Flour Mills were and are being set up in all parts of the country on a small, medium and large scale.

Flour Mill serve the purpose of processing wheat to convert it into flour. Wheat grains are the seeds of the wheat plant which is grown under widely different climatic conditions. Flour are made of hard wheat, soft wheat or combination of these. The percentage yield from a good quality of wheat is estimated as follows :

Fines

Maida or Suji	-	60 %
Atta	-	20 %
Bran	-	20 %

Alternative

Whole Mill Atta	-	92 %
Bran	-	06 %
Waste - Refraction	-	02 %

In the Orai Flour Mill both methods are opted as require. Different machines used in the Mill are Blender, Sieves, break rolls, smooth steel reduction rolls, aspirators, conveyors, washers etc.

Market Survey

The flour mill industry is an agro-based industry engaged in the production of Atta, Maida, Suji and Bran. Atta produced by flour mills is mostly consumed by hotels and the remaining amount is consumed by households, it is also used to meet the requirements of various distribution programmes. Maida which comprises about 60 % of the total production of flour mills is mostly consumed by bakery industry. Suji which comprises about 5 % of the total production is sold to hotels, bakery and households. The resultant wheat bran is used as poultry feed, Maida & Suji produced by flour mills serves as a basic raw material for the bread and bakery industry.

Bakery industry is growing at an average rate of about 15 % per annum and it is the largest consumer of maida produced by flour mills. The share of bakery industry is rising day by day due to rapid expansion of baking units. The remaining maida is consumed by hotels and households and their demand depends on factors like income level, population, price of food products, etc.

The main raw material used in the flour mill is wheat. The Government supplies it at a fixed price and it is also purchased from the open market, which is easily available in the open market.

In Orai Flour Mill the produced Atta, Maida and Suji is marketed to Kanpur, Mumbai Pune etc. Most of the product is sold through agents or dalal. Main purchasing firms are :

1. Ekta Trading Co. Pune.
2. Modern Food Industries, Kanpur
3. Bichi Trading Co. Mumbai,
4. Jhakat mal, Takhat mal Satna etc.

Manufacturing Process

The milling process breaks open the wheat kernel and reduces the particles formed as to separate the outer and inner portion of the kernel. Bran and germ are almost completely separated from the white interior portions in the milling of refined flour.

Various steps involved in wheat milling are, wheat selection and blending, cleaning, conditioning or tempering, milling and enriching treatment of the flour. It is not necessary that all of these operations are to be performed in every flour mill. Details of manufacturing process are as given under :

- 1. Wheat selection and Blending :** There are different qualities of wheat, varying in the composition of proteins, carbohydrates, vitamins etc. Selection of wheat for milling depends upon the final products i.e. quantum of nutritions, vitamins, protein values needed in the wheat flour. Sometimes wheats of different grades are blended together in the milling process.
- 2. Cleaning :** In the cleaning process wheat is first relieved of all its impurities like dust, strings, stones, particles etc. this is done in several stages with the help of different machines such as Wheat Cleaning Separators, Branch Machine, Carter Disc Separator, Scourer Reel, Dry Stonner, etc. After the process of cleaning, wheat is washed and by washer and whizzer machines it is relieved of any adhering dirt and moisture, which is important for the milling process, After washing, the wheat is stored in large bins generally made of wood, steel or concrete. The wheat is allowed to rest in these bins for a certain number of hours, depending on the quality of wheat and its likely use.
- 3. Milling :** In this process the final grinding or crushing of wheat takes place. Wheat after being thoroughly cleaned and washed is brought to this section by the help of elevators from the bins. The grinding of wheat is done by the Roller Mill Machine in which two rools run in opposite directions and at different speeds. The break rools have a tendency to open up the grain and scrap the endosperm for making maida. The whole system is called the gradual reduction system which mean that maida from atta is made by gradual reduction of the size of the particles. The centrifugals are used for sieving

purposes and the purifiers are used for making Suji. The whole process consists of feeding the cleaned wheat from the cleaning section to the roller mills where it is ground and lifted to the centrifugals by the help of bucket elevators. The stock on entering the centrifugals is lifted and divided into different stock which are distributed to different channels, some will go to purifiers and others back to break again for regrinding.

The stock keeps on moving forward like this and feeds to different streams of products. The products are packed in bags, weighted and stitched with automatic stitching machines and finally stored in godowns.

5.2 Small Scale Industries :-

A significant feature of the Indian economy since Independence is the rapid growth of the small industry sector. In the Industrial Policy Resolution of 1948 and 1956, the small sector was given special role for creating additional employment with low capital investment. A new thrust was given in favour of small units by the Industrial Policy Statement of 1977. In 1950, the government grouped small –scale industrial undertakings in to two categories-those using power but employing less than 50 persons and those not using power but employing less than 100 persons. All small-scale enterprises, however, had capital investment of less than Rs. 5 lakhs. None of these criteria taken singly would be a determining test as they undergo changes over a period of time. The third criterion, namely, the character of organisation and management, also can not be considered a sound basis of classification. Apparently, the standing feature of small scale enterprises seems to be the personal character of its organisation and management in contrast with the predominantly impersonal organisation and management of large corporations. In small enterprises management is predominantly proprietary with individual ownership or partnership. But the ownership and management may also be identical in some of the large scale industries. The criterion, therefore, becomes vague and inappropriate.

In 1966, the small-scale enterprises were defined as undertakings with a fixed capital investment of less than Rs. 7.5 lakhs and ancillaries with a fixed capital investment of Rs 10 lakhs. Investment will imply investment in fixed assets in plant and machinery, whether held in ownership term or by lease or by hire purchase. In 1975 this

limit was revised to Rs. 10 lakhs for small-scale enterprises and Rs. 20 lakhs in case of ancillaries. Subsequently, under the Industrial Policy Statement of 1980, this limit was further raised to Rs. 20 lakhs in case of ancillary units and Rs. 25 lakhs in case of ancillaries units. Simultaneously, in the case of tinny units, the limit of investment has been raised from Rs. 1 lakh to Rs. 2 lakhs. In March 1985, the government has again revised the investment limit of small-scale to Rs. 35 lakhs and for ancillary units to Rs.45 lakhs.

As per the Industrial Policy Statement of May 1990, the investment ceiling in plant and machinery for small scale industries(fixed in 1985) has been raised from Rs. 35 lakhs to Rs. 60 lakhs and correspondingly for ancillary units from Rs. 45 lakhs to Rs. 75 lakhs. Investment ceilings with respect to tinny units has been increased from Rs. 2 lakhs to 5 lakhs. According to the modified definition, an ancillary unit is one which sells not less than 50 percent to its manufacturers to one or more industrial units.

During 1997, on the recommendation of Abid Hussain Committee, the Government has raised the investment limit on plant and machinery for small units and ancillaries from Rs. 60/75 lakhs to Rs. 3 crores and that for tiny units from Rs. 5 lakhs to Rs. 25 lakhs.

The Government in 2000 has reduced the investment limit on plant and machinery from Rs. 3 crores to Rs. 1 crore, but the limit for investment in tiny units has been retained as Rs. 25 lakhs.

Classification

A common classification is between traditional small industries and modern small industries. Traditional small industries include Khadi and handloom, village industries, handicrafts, sericulture, coir, etc. Modern small- scale industries produce wide range of goods from comparatively simple items to sophisticated products such as television sets, electronics control system, various engineering products, particularly as ancillaries to the large industries. The traditional small industries are highly labour intensive, while the modern small-scale units make use of highly sophisticated machinery and equipment. In the year 2001-02 some developments have taken place for the SSI sector.

The investment limit for units in hosiery and hand tool sub sectors was enhanced from Rs. 1 crore to Rs. 5 crore.

In a broad sense cottage, small and village industries are treated similar but they fundamentally differ from each other.

Cottage industry is run by family members on full or part time basis. It possesses negligible capital investment. There is hand made production and no wage earning person is employed in cottage industry.

Small industrial units employ wage earning labour and production is done by the use of modern techniques. Capital investment is also there. A few cottage industries which are export oriented, have been included in the category of small sector so that facilities provided to small units may also be given to export-oriented cottage industries.

The industries established in rural areas having population below 10,000 and having less than Rs. 15,000 as fixed capital investment per worker will be termed as village industries. KVIC and state village Industries Board provide economic and technical assistance in establishing and operating these industrial units.

The small scale sector has played a very important role in the socio-economic development of the country during the past 50 years. It has significantly contributed to the overall growth in terms of Gross Domestic Product (GDP), employment generation and exports. The performance of small scale sector, therefore, has a direct impact on the growth of the overall economy.

Despite the global and domestic recession, small-scale industries registered a higher growth rate than the overall industrial sector in terms of number of units, production, employment and exports. During 2002-2003, the number of SSI units was estimated to have increased to 35.72 lakhs from 34.42 lakhs in the previous year, registering an increase of 3.8 percent. The estimated value of production at current prices by the SSI units also increased by 7.5 per cent to Rs. 7,42,021 crore from 6,90,316 crore during 2001-02 and at constant prices by 7.5 per cent to Rs. 5,14,292 crore in 2002-03 from 4,78,456 crore during 2001-02, while employment went up to 199.65 lakh persons from 192.23 lakh persons during 2001-02. Exports increased to Rs. 69757 crore in 2000-01 from Rs.54200 crore during 1999-2000. With the growth of 28.78 % against that of 10.66 % during the previous year.

With the removal quantitative restrictions goods from the outside world are now marketed in India. This has raised basic questions about the rule for SSI reservation. In many labour intensive areas with great export opportunities SSI reservation in India is handicapping the development of efficient economies of scales, while firms in countries such as China are able to compete effectively in the International and in the Indian market. Hence, the process of phasing out of SSI reservation, in consultation with stake holders, would constitute an important element of policies that foster efficiency and productivity in India.

As the large scale and medium scale industries provide assistance to the economy by producing goods as per their capacity, similarly the small scale industries make the economy strong. Small scale industries generate employment opportunities with low investment of capital and such industries may be expended in cities, towns and villages too.

In the district Jalaun the total number of small scale industries established up to 2000-2001 was 3231. In these industries the total investment of capital was 4734.40 lakhs and 13,836 persons were employed.

As per the information received from the District Industries Centres the item wise details of the industries are as follows :

Small Scale Industries established up to 31/3/2001 in the District

S.N.	Code No.	Product Name	No. of Units	Capital Investment (In lakhs)	Employment
1.	20-21	Food products	737	1075.90	2420
2.	22	Drinking & Tobacco	14	3.82	142
3.	23	Cotton textiles	14	88.32	81
4.	24	Wool silk & Synthetic Tex.	16	197.56	181
5.	25	Jute, Hemp, Mesta Tex.	-	-	-
6.	26	Hosiery & Garments	378	140.60	1025
7.	27	Wood products	266	70.10	887
8.	28	Paper & Printing	147	152.25	606

9.	29	Leather & Leather product	113	95.77	309
10.	30	Rubber & Plastic product	50	145.37	222
11.	31	Chemical & its products	93	156.82	388
12.	32	Non-metal mineral product	29	156.84	2331
13.	33	Basic Metal product	16	820.38	221
14.	34	Metal products	361	1179.41	1425
15.	35	Machinery & parts	56	32.75	144
16.	36	Electrical machinery & tools	153	49.99	360
17.	37	Transport equipment & parts	1	0.05	2
18.	38	Sundry products	237	184.13	1751
19.	96-97	Repairing & Service	550	184.34	1341
Total			3231	4734.40	13836

Source : District Industry Centre, Jalaun place Orai.

The above table indicates that in the district the highest number of established units (737) are of the food products providing employment to 2420 persons. The capital invested in these industries is 1075.90 lakhs. From the capital investment point of view the highest investment of capital amounting Rs. 1179.41 lakhs is in metal products industry. Although in this sector 361 units are registered and providing employment to 1425 persons. After the food products industry, the highest employment generating industry is non-metal mineral product, having 29 units and providing employment to 2331 persons.

Khadi and Village Industries Board :

The Khadi and Village Industries Board has great importance in making the economy strong. In this sector the units are established keeping in mind the availability of resources and skill ness. The units may also be run as part time job. Its main reason is that the agriculture work is not available during the whole year so the labourers may be engaged in such units. The main work of this department is to make the finance available to the individual units, Non –government organisation and Cooperative Societies for establishing units. Now units establishing in this sector have to pay interest at a lower rate

and the government subsidy is also available to these units. Due to these facilities the units; based on modern technology are established in this area.

The informations received from the District Khadi and Village Industries Board, Kalpi the present scenario is as follows :

Present Scenario Of Khadi & Village Industries Board In The District : (From Beginning To 10-10-2001) :

S.N.	Plan name	No. of Financed Units			Production (in lakhs)	Employment	
		Institution	Society	Individual		Fully	Partially
1.	Financed by KVIB	69	26	2375	70.55	1197	1290
2.	Interest Subsidy plan of KVIB	02	-	-	15.00	5	7
3.	Interest Subsidy plan (Bank finance)	-	-	178	-	103	282
4.	Margin Money Scheme	-	-	15	-	35	18

Source : District, Khadi & Village Industries Board; Kalpi, Jalaun

The main industries of the above mentioned units

Khadi, Pulses processing units, Ghur, Oil mill, Carpenter- wood works, Gum, Fruit processing, Agarbatties, Textile, Fiber, Hand made paper, Herbal products, Aluminium, Soap, Milk, Tiles, Plastic products, Service, Leather products etc.

5.3 Industries Promoting Agriculture Development :-

As it has already been discussed that the economy of district Jalaun is agrarian. It is known from the dates that 79% of the total population of the district is dependent upon the agriculture. The marginal productivity of the labour is zero or sometimes it is negative too. Thus in the district disguised unemployment exists. Thus for reducing the dependency of labour on agriculture, it is essential to develop the industries, so that the excess labour may be shifted from agriculture to industry. Now a question arises that

what types of industries should be developed keeping in view the available resources and the skills of the labourers.

Agro-based industries in the district have great opportunities to be developed because of the availability of raw material, labour force and being these industries are labour intensive so a large amount of capital is also not required.

Both two types of industries may be developed as :

- 1- Industries, promoting conventional agriculture development and
- 2- Industries promoting modern agriculture development.

Agro-based industries like Oil mill, dall mill, flour mill and spices industry, snacks food industry, food processing industry etc. require conventional agricultural raw material like wheat, dall, spices etc. Thus these industries promote conventional agricultural development.

At the same time there are also many agro-based industries which promote modern agricultural development. Industries like herbal cosmetic industry, Ayurvedic industry, menthol processing industry etc. as these industries require raw materials like safed moosely, sahan, peppermint etc. the farming of herbal items is very beneficial to the farmers as the productivity of land (in terms of money) in herbal farming is much more than the conventional farming. Thus these industries promote modern agriculture development.

(A) The details of some Agro-based industries which directly promote the conventional agriculture development and also have the opportunities to be established in the district are as follows :

Roasted And Fried Dry Fruits, Ground Nut, Grams, Peas Etc. :-

Introduction

The cultivated groundnut originated in South America and is now grown in 82 countries in the world and India is the largest producers of the crop. India, China, Nigeria, U.S.A. and Sri Lanka account for four-fifths of the world's ground nut production.

Besides the use of ground nut as all bearing seed, which constitute 40 to 50 per cent of the seed on weight basis. Its kernels are eaten raw, roasted or sweetened.

Salted groundnut is manufactured from seeds after dehulling. Followed by roasting and blending with salt, salted groundnut kernels are rich in protein and vitamins A, B and some members of the B₂ group .Their caloric value is 349 cal./100 gm.

Use & Applications

Salted groundnuts is a convenient food item which is taken with soft or hot drink in general. It avoids the cumbersome job of peeling, cleaning and addition of salt separately. With the change of life style and lack of time it is going to be more popular day by day, especially in cities. In foreign countries such as Saudi Arabia & Abu Dhabi people like salted groundnut very much with beverages and wines.

Properties

- Salted groundnut is very tasty
- Their Caloric value is 349 per 100 gram.

Digestibility of the proteins found in salted ground nuts is around 97.4 % and biological value 57.9 % . It is cheap and rich source of fat, protein, carbohydrates, and vitamins A, B, and B₂, nicotinic acid and vitamin E.

Market Survey

No oil seeds other than groundnut can fulfill simultaneously the energy and protein need required. That is why it is consumed in various forms. Its oil is consumed in Vanaspati-Industry. Its kernel are eaten in every corner of the country. Salted ground nuts (Kernels) are becoming more popular now a days within the country as well as abroad. Export earning through groundnut kernel H.P.S. has been generative source of foreign exchange for some years. A very progressive trend is observed especially since last decade.

B.I.S. Specifications

Although no I.S.I. Specification is available for “salted groundnut (kernels).” But I.S. : 9071 and I.S. : 4427 may be consulted for better informations regarding groundnut kernels in particular for oil milling and table use.

IS : 10065- Ground nut Kernel Roasted.

IS : 4427 – Ground nut Kernel Grading

Manufacturing Process :

Roasting & Frying of Dry Fruits

The well cleaned Kernels are roasted in the rotary drum type electric roaster fitted with thermostatic control arrangement for 15 to 40 minutes according to the desired colour appearance. The temperature is usually maintained at 150° C, on roasting, oil does on the surface of the kernels. No salt is added and the heater is switched off.

At this stage citric acid may also be added in order to avoid rancidity. In some plants roasting is accomplish by deep frying of the kernels in thermostat controlled pans in vegetable oil. Frying at controlled steady temperature (150° C) helps to get the desired roasted colour for the groundnut, After 10-20 minutes roasting of kernels is stopped and the kernels are dressed with a solution of anti oxidant and are acid synergist to prevent rancidity. Salt is mixed with kernels before they are packed. The basic difference in both type of roasting is that in first process there is a loss in weight of kernels due to partial evaporation of oil and in the later process there is a gain in weight of kernels due to frying with vegetable oil.

Readymade Processed Food (Canned Fruits & Vegetables) :-

Introduction

Canning of hermetic sealing is one of the most important commercial processes developed in vegetables. The canning of hermetic sealing in metal or glass containers after heat sterilization, food preservation is assured both by the destruction organism present in the container and by prevention of infection from outside sources. Almost all the methods of preservation, excepting cold storage and dehydration, are covered by the term canning, and the material preserved cover a wide range including fruits and vegetables, fish and meat and milk and dairy products.

Besides protecting foodstuffs against deterioration, canning has helped in creating products with great appeal to consumers. Canning has also helped to overcome seasonal and regional gluts and scarcities, by preserving surpluses whenever and wherever available, and making them available in all seasons over wide regions. By utilizing surplus materials, the canning industry has not only prevented wastage but also helped to stabilize prices.

Uses and Applications

Canned fruits and vegetables are consumed mainly in Big Cities. The potential of its consumption is rather higher in big cities than small cities, because, inhabitants residing in small cities prefer the fresh vegetables & fruits. However, the consumption of canned fruits and vegetable is very high in Defence Department. Due to non-availability of off-season fruits and vegetable, the canned fruits and vegetables are getting awareness in our countries to fill the glut of the fruit, and vegetables.

Market Survey

Due to its unique geographical and climatic conditions India is gifted with a wide range of fruits and vegetables. The present level of annual production of fruits and vegetables in India is estimated at about 54 million tonnes, out of which fruits constitute about 43 %. Since fruits and vegetables are seasonal and are highly perishable in nature, it is estimated (even though no systematic study has been made) that there occurs a loss of 25 to 40% in various stages from plucking, packaging, transportation, storage, marketing and consumption. Hardly, 9.3% of the fruits and vegetables produced in the country are used for processing for their consumption in the off season as also for export out side the country. There is, therefore; a vast potential to develop the industry by integrating production with processing and marketing which will go a long way in improving the national economy and benefit the grower and the consumer.

Future Scope

Owing to rich horticultural potential that exists in the country, the fruit and vegetable processing industry can play an important role in salvaging the wastage by utilizing 'CULL' and sub-grade fruits, help in stabilization of prices during the glut

season, afford employment opportunity (as this industry is labour intensive), meet the requirements of Defence forces in boarder areas, and last but not the least earn foreign exchange for the country. There is heavy concentration of the units in some areas like Maharastra, Tamilnadu, U.P., West Bengal, Kerala , Punjab, Karnataka, Delhi, Gujarat and Andhra Pradesh as compared to some of other places like Bihar, Orissa and the states of Northern-Eastern Region, where the number of processing units is much less . this is mainly due to the un-economic conditions of processing in those areas. It is not only the availability of fruits and vegetables but also other factors like the cost of production, convenient market and the availability of infrastructural facilities which all together contributed in the establishment of the processing units.

During the last few years the fruit and vegetable processing industry has expanded considerably, bulk of the production consists of jams/ jellies, fruit juices/ pulps, ready-serve fruit beverages and pickles. The major outlets for the products of this industry are the institutional sectors such as Hotels, Restaurants, Defence Establishment and the export market. The domestic and house hold sectors consume about 10% of the total production of processed fruits and vegetables. The bulk of the production exported consists of fruit juices/pulp, jams and pickles.

(B) The details of Agro-based industry which directly promote the modern agriculture development and also have the opportunities to be established in the district are as follows :

Medicinal And Aromatic Plants & Herbs Industry

Introduction

India is a vast country with rich biological diversity. It is also a treasure house of about 45,000 species of plants comprising vascular plants (15,000) petridophytes (600), bryophytes (2,700) algae (5,000) fungi (20,000) and lichens (1,600). These contributes valuable raw materials for indigenous industries in the pharmaceutical, perfumery, cosmetics, flavour and fragrances sectors. India is endowed with rich flora and nearly three-fourth of the drugs mentioned in the various pharmacopoeia grow naturally in the

wild. Approximately 1/3 of all pharmaceuticals are of plant origin, fungi and bacteria are also included, over sixty percent of all the pharmaceuticals are plant based.

With the growing interest in medicinal plants as source of new pharmaceutical products and the increasing demand for herbal products throughout the world, it is expected that the demand for raw materials will also increase. Most of the medicinal plant resources are in natural forest. Due to uncontrolled exploitation, this natural resources is greatly depleted and many forest species face extinction. It is therefore necessary to formulate plans and incorporating with proper silviculture practices to cultivate selected species, both in forest and non-forest area such as under planting with oil palm. Traditionally, oil palm has long been grown as monoculture crop and land under the mature palms are generally under utilized. Medicinal and aromatic plants present an opportunity exploiting the inter row spaces for economic gains. We therefore highlights some economically important medicinal and aromatics plants which can be integrated with oil palm. Suitable methods of integrating medicinal and aromatic plants with oil palm can be achieved.

Many of our local plants are also rich in aromatic compounds that can be used commercially as flavour and fragrance agents in beverages, food products, confectionery, toothpaste, cosmetics and medicinal preparations. Given the tremendous diversity of aromatic plant species available in India and the continuous demand for flavour and fragrance by industries, the economic potential of commercial application of these species is very promising.

Medicinal plants

Indian flora is very rich in medicinal plants. Because of its vast area and wide variations in climatic conditions and soils, India is the only country in the world where most of them medicinal plants used in modern medicine are obtained either from the wild or from cultivate sources. Over 7,000 different species of plants found in the different ecosystems and are said to be used for medicinal purposes in India.

One of the earliest treatises of Indian medicine, the Charaka Sanhita (1,000 BC) mentions the use of over 2,000 herbs for medicinal use. Presently the Indian system of medicine uses over 1,100 medicinal plants, of which over five dozens are said to be in

larger demand. Eighty percent of raw material for the drugs used in the Indian system of medicine are based on plant products extracted mostly from wild sources. At present there are about 10,000 pharmacies using the Indian system of medicine who largely consume the extracts of herbal plants.

In addition to exploiting the majority of the medicinal plants harvested from the wild, for the production of drugs used in the traditional systems of medicine, as well as, lately, in modern medicinal systems, India has developed a significant potential for the production and utilization of medicinal plants through research and development. The medicinal plants as a whole occupy a stable position even in modern medicine, since the pharmaceuticals industry is showing special interest in using or synthesizing natural substances extracted from plants.

Uses

It is estimated that approximately over three-fourth of the world population is still dependent on traditional medicine. In India there are about 10,000 licensed pharmacies practicing the Indian system of medicine. In addition to this, there are thousands of local vaidhyas, herbal healers, monks, bone setters, tribal doctors etc., who possess a vast body of knowledge, practice this system of medicine and also what is more important, prescribe and use the extracts of medicinal plants.

The use of plant –

based products for disease prevention and treatment has become increasingly popular in many societies. The World Health Organization (WHO) has estimated that about 80% of the population in developing countries rely chiefly on traditional medicine for their health care needs, of which a major portion involves the use of plant extracts. With growing interest in medicinal plants as a source of new pharmaceutical products and the increasing demand for herbal products throughout the Globe, it is expected that the demand for raw materials will also increase. Since most of the medicinal plants resources are from natural resources and many plant species are now facing extinction, it is of necessary to domesticate and cultivate selected species from both forest and non-forest areas. The success of such domestication programme will assist in the conversation

of plant genetic resources, avoid further depletion and meet the demand for raw materials from the herbal industries.

The biodiversity of plant resources offers some 12,500 species of flowering plants and 5,000 species of cryptograms. About 2,000 species are recognized for their medical properties and they are still being used among certain communities. Some of these plants that are used as traditional medicines are also used as common spices or food additives and a few species which have been commonly used for herbal preparations.

India has about 45,000 plant species that includes 2,532 plants; medicinal properties have been assigned to several thousand. About 2,000 figure frequently in the literature; indigenous systems commonly employ 500. The value of ethno medicine has been realized. Statistical methods are being used to assess the credibility of claims. A scrutiny of folk claims found 203 plants for evaluation. Less well known ethno medicines have been identified that are used to treat intestinal, joint, liver and skin diseases.

Generally, the medicinal plant based industry has four major end use segments conveniently classified as below:

- ✓ Plants utilized as medicinal agents.
- ✓ Over the counter non prescription items (OTC).
- ✓ Essentials oils.
- ✓ Phyto- pharmaceuticals.

Plants utilized as medicinal agents: Earlier, the medicines used in the indigenous systems in India were generally prepared by the practicing physician himself, but now the practice has been greatly replaced by the establishment of more or less organized indigenous drug industries. The large number of traditional pharmacies consume the herbal plants which are mostly collected from the wild.

Plants used in over the counter prescriptions: The medicinal plants are not only being directly used by traditional medicines in developing countries, but also used in over the counter preparations in developed countries in Europe and in USA, in the forms of: tinctures, galenicals, unos, decoctions etc.

Plants as a source of essential oil: In India, the essential oil industry was earlier and traditionally a cottage industry, but now a number of industries have come up and produce essential oil, oleoresins and perfumes in the country.

Phyto-pharmaceuticals: At the present time, phyto-pharmaceuticals and chemical sciences have greatly contributed to the enhancement of utility of medicinal herbs. Medicinal herbs have been subjected to rigorous chemical analysis and biodynamic compounds have been isolated and evaluated. As a result, new drugs have been discovered and new applications have been found for compounds already in use.

- ✓ These biodynamic compounds are mainly used as sources of:
- ✓ Direct therapeutic agents
- ✓ Starting materials for elaboration of more complex and bio-active semi-synthetic compounds
- ✓ Substances which can be used as models for few synthetic compounds.
- ✓ Botanical pesticides, fertilizers, insecticides etc.

Sources And Cultivation

Planting Of Medicinal Plant

In India medicinal plants are generally collected from the wild, with limited cultivation being carried out. This has led to serious depletion of certain species and put some in danger of extinction. Interest has grown in the cultivation of medicinal plants for herbal use. However, to ensure satisfactory returns from planting medicinal plant, plant selection must be focused on species highly demanded by the industry. Planting will depend on land availability.

Planting under forest conditions which include virgin forest, logged-over forest and plantation forest: in forest where its resources have been removed (logged over forest), enrichment planting with selected medicinal plants is suitable and beneficial. In plantation forest, planting can be carried out in conventional forest plantations where selected medicinal plants are planted under forest species such as teak, pine, acacia, *azadirachta exelsa* and *aquilaria malaccensis*.

Though medicinal plants are largely collected from the wild, attempts are being made to cultivate certain medicinal plants that prove economical for cultivation as crops under field conditions. Efforts are also in process by certain non-governmental organizations to promote the cultivation of these plants in-situ, that is at the site where it is available in the wild, in conjunction with the triables.

Integration with agricultural crops: Other than planting under forest conditions, medicinal plants can also be integrated with other commercial crops such as rubber and oil palm. Such crops are able to provide shade and artificial forest environment to the medicinal species, and Under open condition: under this condition, medicinal species that have high tolerance to high light intensities may be planted.

Cultivation of medicinal plants in India is increasing slowly. Educated farmers are taking interest for such work. Though, Medicinal Plants are not alternative to irrigated crops but some uncultivated open lands may be useful for such cultivation. It is the main objective for the medicinal plants cultivation. In India, more than 70% agricultural land depends on rainwater. Out of these, 40% land can be utilized for such medicinal plants under cultivation in future. Some times, lands remain uncultivated due to non availability of water. If rains are not in proper time, farmer could not harvest any thing from, such land. Some medicinal plants are growing naturally as xerophytic habitat without any special care or maintenance. Hence, the cultivation of medicinal plants has special significance in such lands. Farmers will get something from such cultivation. However, cultivation of medicinal plants has importance for such farmers.

There are so many types in medicinal plants. Some herbaceous plants can be cultivated as inter cropping plantation in fruit crop or forestry plants. Shrubby medicinal plants those getting returns after 3 to 5 years may be cultivated separately or in between area of fruit tree plantations as a intercrop, on distance of 3 to 5 meters. There are some big trees also available in medicinal plants. It requires more than 10 to 15 year for harvesting and their returns. Such plants may be planted on distance of 10 to 15 meters on separate plane lands or on slops of hillsides. Tree habited plant can be selected for forestation in social forestry.

In fruit cultivation, some medicinal fruits can be selected for plantations. Herbaceous medicinal plants have special significance for intercropping in fruit cultivation. Because, of its short life cycle and annual harvesting. It gives early returns to the farmers. This will be benefited to primary expenditure of such long range plantation of fruit crop. Medicinal plant cultivation in large scale has importance to cure the number of diseases of human life as well as natural health care. Some important medicinal plants has to be included for commercial cultivation to the farmers. They must think for such cultivation in future programme of plantation.. For example: Dehradun, Haridwar, and Saharanpur region is vital having rich flora and fauna in nearby Himalayas. A market survey carried out by an agency of about five important endangered species of medicinal plants *Aconitum heterophyllum* (atis karwa), *Swertia chirayita* (chirayita), *Hedychium spicatum* (kappoor-kachri), *Nardostachys jatamansi* (jatamansi), *Inula racemosa* (pushkarmool) has been carried out and the results are tremendous and found that their demand is huge. The same had presented to the government on information like the trade route(s), number of traders dealing in the species, average selling rate(s), rate trends, trade volumes, availability, demand, future availability trends, storage time, adulteration and trade dynamics.

The flora of medicinal plants existing in different agro-climatic zones of the state has been surveyed to identify the plant species growing under natural habits. Simultaneously, herbal gardens have been developed in the hills, terai zones, alluvial zones and red and laterite soil zones to be used for conservation as well as demonstration purposes. Side by side, research works are continuing in these zonal gardens to develop the agro-technology suitable for that particular environment. About 170 species of medicinal plants are preserved in these herbal gardens.

Certain drugs are now obtained almost exclusively from cultivated plants. These includes spices like cardamom, ginger turmeric, garlic; peppermint and spearmint for oil production, oilseeds like castor and linseed and traditionally cinchona and opium. Some plants have been cultivated from time immemorial (e.g. flax, opium poppy and coca). Others are grown now because supplies of wild plants are insufficient to meet the demand or because, owing to sparse distribution or inaccessibility, collection is difficult. Cultivation is essential in the case of drugs such as Indian hemp and opium, which are

subject to government control, and many cases it is advisable because of the improved quality of the drug which it is possible to produce. Soil Different plants species vary enormously in their soil and nutritive requirements, and this aspects has received considerable attention with medicinal plants. Three important basic characteristics of soils are their physical, chemical and microbiological properties.

Planting Of Medicinal And Aromatic Plants Under Oil Palm – **Agro-forestry As An Option**

Traditionally, raw materials of most medicinal and aromatic plants have been sourced from natural forests. Continuous extraction from this source without concerted efforts on replacement through replanting has inevitably led to the depletion of these important raw materials. One of the key determinant of the future development of the medicinal and aromatic plants industries in this country is the sustainable supply of the raw materials. For continuous and sustainable supply of the raw materials , some forms of planting are deemed necessary.

A major limitation in the wide scale planting of potentially high economic value crops such as medicinal and aromatic plants is the issue of the land availability. Land for the planting of any crop, used to be available in abundance but is currently getting scarce. Furthermore, because environmental consideration, clearing of forests for the purpose of crop cultivation is currently not encouraged. There is a tremendous pressure to conserve our forests. In addition, a lot of our natural forests have been gazetted as permanent forests.

Even in new plantings, with the good price of palm oil, the focus is more on the planting of this crop. In addition, monoculture planting of medicinal and aromatic plants, although of potentially high value, may involve some form of biological and economic risks. With this scenario, it is therefore imperative that alternative forms of planting of medicinal and aromatic plants are sought and considered.

A combining agricultural crops such as oil palm with medicinal and aromatic plants on the same piece of land. Under the concept of maximum land utilization and the need for diversification and alleviating potential risks in planting, medicinal and aromatic

plants providing added value to the land. In anyway agro- forestry planting system to be adopted, due consideration should be given to minimizing possible competitive effects between the various component species and the provision of conducive environments for the proper establishment and growth of all component species.

In view of this, various factors have to be taken into consideration in considering the integration of medicinal and aromatic plants with oil palm and these include:

- ✓ Growth habits of forest species in terms of growth rates, crown shape and size etc.
- ✓ Growth requirements for light, moisture, nutrients, space etc., of all component species.
- ✓ Duration of growth
- ✓ Topography, either flat, undulating or hilly terrain.
- ✓ Planting direction in terms of maximizing light transmission and capture.
- ✓ Taking the above factors into consideration, the following are some illustrations and interim proposals on the integration of selected medicinal and aromatic plants with oil palm in an agro-forestry system of planting.

The local tribes in the different forest in India are mainly engaged in the collection of medicinal plants from around these forests. However, the supply of raw material to the industry is mainly through contractors / brokers, who pay the tribals for plant collected from the wild. The collectors / tribals settled in forests who do the collection are generally paid only subsistence allowances. Pricing the ultimate product for the user industry generally depends on the season. The availability of good quality material, free from adulterants, in adequate quantity and at sustainable prices has been among the chronic problems of the industry. The demand for these materials is said to be increasing year after year. No effort appears to have been made to assess the extend of area available under these crops (both in wild and cultivated from), their present supply positions and also the demand of the existing pharmacies.

The important plants cultivated extensively for their medicinal properties as well as plants collected from wild sources.

Sl. No.	Medicinal plants	Cultivated	Collected from wild
1.	Belladonna (<i>Atropa belladonna</i>)	✓	
2.	Cinchon (<i>Cinchona</i> sp.)	✓	
3.	Derberis (<i>Derberis</i> s.)		✓
4.	Dioscorea (<i>Dioscorea deltoidea</i>) _		✓
5.	Ergot / Rye (<i>Claviceps purpurea</i>)	✓	
6.	Indian podophyllum (<i>Podophyllum emodi</i>)		✓
7.	Indian valerian (<i>Valeriana Wallichii</i>)		✓
8.	Medicinal yams (<i>Dioscorea</i> sp.)	✓	
9.	Opium poppy (<i>Papaver somiferum</i>)	✓	
10.	Psyllium seed (<i>Plantago ouata</i>)	✓	
11.	Serpent wood (<i>Rauwolfia serpentina</i>)		✓

Demand For Medicinal And Aromatic Plants & Herbs

The imports of medicinal and aromatic plants come mainly from China, India and Indonesia while exports are largely to Singapore, Philippines, Australia, Malaysia and Hong Kong. Under the spice category, garlic is the important import item. In industry, medicinal plants and their parts are used in the form of extracts with high and standardized contents of active constituents for the pharmaceutical and natural products industries. Many plants which have been traditionally used to treat certain ailments are now being processed using modern technology for the production of functional foods and tonics.

There is increasing demands of herbs and herbal formulation from U.S., Germany, France and UAE. India is one of the reservoirs of natural bio-resource, different agro-climatic conditions, sufficient trained skill and manpower to exploit the dominance in this business. Keeping this in view the immense knowledge on medicinal herbs available in the ancient literature can provide endless business opportunities. There

is indiscriminate harvesting of medicinal and aromatic herbs, which leads to extinction to herbal populations in agro-resources. Now there is a need to domesticate and produce organically grown quality medicinal herbs of high standards for internal consumption as well as export. It is also felt that all the indigenous medicines that are produced by the pharmaceuticals and agro-based industry for internal use and export must be subjected to strict quality control tests before marketed. Therefore, the overall need for production and quality control of medicinal herbs for making desired dent has been highlighted in the world market.

Propagation From Seeds:

To ensure success the seed must be collected when perfectly ripe. If not planted immediately, they should normally be stored in a cool and dry place and must not be kiln-dried. Some seed such as cacao, coffee and nutmegs rapidly lose their power of germination if allowed to dry. Long storage of all seeds usually much decreases the percentage which germinate.

Propagation By Vegetative Means:

The following examples of vegetative propagation may be mentioned:

- ✓ By the developments of bulbs (e.g. squill); corms (e.g. colchicum); tubers (e.g. jalap and aconite); or rhizomes (e.g. ginger).
- ✓ By division, a term usually applied to the separation of a plant which has a number of aerial stems or buds, into separate parts each having roots and a growing point. This method may be used for altheas, rhubarb, gentian and male fern.
- ✓ By runners or offsets (e.g. chamomile and the mints).
- ✓ By suckers or stolons (e.g. liquorice and valerian).
- ✓ By cutting or portions of the plant severed from the plant, capable of developing roots. Cutting may be employed for the propagation of mints, lavender, rosemary, duboisias, tree daturas coca and vanilla, to mention but a few.

- ✓ By layers. A layer is a branch or shoot which is induced to develop roots before it is completely severed from the parent plant. Used this method for the propagation of cascara.
- ✓ By grafting and budding. Grafting is an operation in which two cut surfaces, usually of different but closely related plants, are placed so as to unite and grow together. In Guatemala young *Cinchona ledgeriana* scions are grafted on *Cinchona succirubra* root- stocks eventually giving a tree which produces bark rich in the alkaloid quinidine. Budding consist of the introduction of a piece of bark bearing a bud into a suitable cavity or T-shaped slit made in the bark of the bark of the stock, Budding largely used for Citrus species.

Aromatic Plants

In India, various types of climate and soils are available, hence aromatic herbs can be grown naturally all over the country. Those, the value of raw material is less, but processed products and extracted oil can be sold with higher rates. Extraction of oil may be done on small scale industry, on farms. Before plantation of such aromatic herbs, it should be spent some amount for processing unit. The aromatic oils and its compounds have some skilled technology for extraction. Growers should learn the technology and then cultivate such type of aromatic herbs. Aromatic oils and their compounds have very good demand in national and international markets. The herbal products like high grade scents, flavored food products, cosmetics, toiletries, various types of scented soaps, talcum powders, face powders, creams, Agarbatties, etc. Some of the plants products / parts are used as spices for flavoring the meal or last food products as also medicinal products.

Essential Oil from Aromatic Plants

Use of aromatic plants and their products is as old as our history. The aromatic plant and aroma chemicals contained in them, play a vital role in our day-to-day living. Many people use perfume and perfumed products. India has varied climate conditions and suitable soil exists in one or other part of the country. Hence, it is possible to grow almost any type of essential oil bearing plant.

Aromatic plants and their parts are the sources of essential oils, resin, turpentine, flavours and fragrances which can be used in the preparation of traditional medicines as well as in industry. Some of the important essential oils used in medicine are mint oil, peppermint oil, eucalyptus oil, citronella oil and cinnamon leaf oil.

India's share of essential oil in the world market can be improved greatly if some of the bottlenecks that prevail now are removed. They are:

- ✓ Adoption of age old technology is still being followed for essential oil production.
- ✓ Wide quality and price fluctuations.
- ✓ Availability of low priced synthetic substitutes

Herbs – Aromatic Plants

We have plants for bronchial asthma, hepatitis and arthritis. We do have herbs where we can relieve headache, fever, gastroenteritis, sneezing and coughing. These conditions can easily be alleviated. We have other plants which have been shown to be effective for treating sexually transmitted diseases and they have been used in that way by tribal populations for centuries.

Pharmaceutical companies have already expressed an interest in developing some of these remedies commercially for sale in the West, To create awareness about the herbal wealth of medicinal importance growing available in surrounding specially in villages. Under some existing schemes, a percentage of the company's profits is given to a local village. This is because many of the remedies are based on a combination of plants which taken on their own would not be effective.

There are hundreds of herbs but we are unable at the moment to do very good testing for combinations of plants. In the Ayurvedic system they use usually combinations. But testing combinations with modern technology is difficult.

Common Standards:

The herbal remedies would have to be produced to a common standard before they could ever hope to make pharmacy shelves. There are many herbs that are very effective and wouldn't many hesitate to prescribe them or even take them but only if it has been standardized. Millions of people living across India use traditional medicine. In

some rural areas, between 60% and 70% seek help from Ayurveda and Siddha practitioners. If this was taken away our health services would collapse. However, the tradition is losing out to western-style medicine.

There are vast areas of India where there is no healthcare and people look after themselves with their tradition, their folklore, their tribal systems and their inherent knowledge of plants. They use this but a lot of this is being lost because the knowledge goes when the folk healer dies. Before it is too late, it is better to acquire knowledge from them and test in labs for commercial purpose, where there would be a great demand for them in western countries as well as in Asian countries who seek natural medicines. The council hoped to continue to collect information on the traditional herbs and to identify those which can be scientifically proven to work.

Ayurveda recommends that the mind and the senses must be healthy and full of life in order to enjoy a disease free healthy and happy life. The air that we breath must be free from pollution and must be pleasant. The herbs that add fragrance to the atmosphere are covered under the Aromatic plants. These form a part of all festivals of India and are generally used to create a light and refreshing atmosphere.

Mogra – Jasmine (Jati):

Jasmine flowers and garlands are worn by women in India for a long time now, it has a very pleasant and gentle fragrance. The oil extracted from this is widely used as a perfume. Ayurveda identifies twelve species of Jasmine which it uses for a variety of purposes. It is valuable in expelling worms, regulating menstrual flow and keeping the kidneys clean. The juice obtained from its leaves is used to remove corns.

Kevda – Fragrant Screw Pine (Ketaki):

Called as the “Moist Musk” by Emperor Babur this fragrant flower is used to flavor food and medicine, its oil is used to make perfumes and its highly scented flowers are useful in headaches and ear-ache. It is also prescribed as a stimulant and an aphrodisiac, It is also beneficial in asthma and other bronchial infections.

Jaiphal – Nutmeg (Jatiphala):

Jaiphal when powdered produces a strong scented oil which is used in massage and perfumes. It aids in keeping the skin and hair healthy. Nutmeg acts as a narcotic hence must be taken with care. It is beneficial in cases of nausea, dysentery, insomnia and a lot of bronchial irritations.

Long – Clove (Lavanga):

Clove oil is universally known as the best treatment for toothaches. It is used as a mouth-freshener and also as an antiseptic for inflammations for the mouth and the throat. It also prevents vomiting and aids in digestion. Its oil is a strong antiseptic and germicide.

Gulab –Rose (Shatpatri):

Shatpatri means hundred petals, the cabbage rose has been used for its mystifying fragrance and aroma in a variety of ways in Ayurveda and the general lifestyle. Royal people used to take a bath in a pool filled with roses which used to keep them sweet smelling as well as cleanse their bodies and disinfect them. Rose water is used as an integral part of eye tonics and eye washes. The syrup made from its petals is used as a laxative. Rose oil is used to make perfumes and is also used to flavor cuisines.

Chandan – Sandalwood (Chandana):

Sandalwood is a highly priced tree providing scented wood which is largely used in Ayurvedic preparations. It is also used by women and men as a paste on the body because of its cooling effect and fragrance. It is applied on the forehead by priests and noblemen as it keeps the mind cool and pure. It is widely used to make cosmetics and soaps.

Common Herbs – Sacred Plants

Nature worship was a common phenomenon in the earliest civilizations as these forces provided all the basic necessities of the people and gradually people found out the importance of some plants to be of great benefit to them. And about 3000 years BC we find the evidence of actual worship in the Indian subcontinent as well as a reverence for

nature as a source of medicine. This practice is much older than the period when Ayurveda became a serious science.

Traditional medicine is popular in India for centuries and believed today that mankind is survived because of the herbs used by our ancestors. Hundreds and thousands of herbs used for centuries by traditional healers in India could soon be on western pharmacy shelves. The Indian Council of Medical Research has launched a series of studies to test the health claims surrounding a variety traditional medicines. Clinical trials have shown that herbal remedies for asthma, diabetes and even sexually transmitted diseases may be effective and in some cases the herbs may be more effective than Western- style medicines.. The council is looking at treatments for a range of other conditions used for over a thousand years by practitioners of Ayurveda and Siddha medicine. Herbal Medicine may be in the form of powder, fresh juice, decoction and paste etc. have been compiled from literature, scientific research work and experience of eminent physicians

Banyan – Barh (Nvagrodha):

Called as the “Many footed tree”, this is one of the most sacred tree, under which holy preaching was given. A tonic made from its seeds may be used as a aphrodisiac. The latex obtained from its trunk has a healing effect on wounds and open sores. The medicines made from this tree are found to be blood clotting, contains antiseptic, and astringent properties.

Tulsi – Holy Basil (Tulasi):

This shrub is grown in all traditional houses of India and is grown in then center of the open yard. It is a holy plant and everyday water is offered to it along with prayers and now modern science has also realized that this shrub purifies the air within a large radius of its location. Its leaves are crushed and mixed with honey to cure coughs, colds and bronchitis. It is also used to reduce fevers. Tulsi leaves mixed with ginger is good for stomach aches in children. Its oil is used as an antiseptic and also as an insect repellent.

Its root crushed and reduced to paste is used to soothe bites& stings and even as an antidote to scorpion and snake bites.

Nariyal –Coconut (Narikeram):

Fishermen in India offer coconuts to the sea to propitiate Lord Varuna, the Lord winds and Waters. Coconut forms an essential part of all religious ceremonies of India. Coconut is believed to guarantee aspiration and auspicious beginnings. Coconut is rich in proteins, minerals and vitamins. It is used in a variety of Ayurvedic preparations and is used to cure burns, restoration of hair growth and dissolution of kidney stones and also for treatment of heart troubles and blood pressure.

Bel – Bel (Bilva):

Bel leaves are offered to Hindu God. The tree is so sacred that the Atharva Veda even tell that this may never be used as fuel. The decoction of the leaves is used to treat fevers, influenza and fatigue. The pulp of its fruit is an excellent cure for dysentery, while its used to cure stomach disorders and as an appetizer. It also purifies blood.

Rudraksha – Ustram Bead (Rudraksha):

Rudraksha necklaces regulate blood pressure and also have a soothing effect on the nervous system. Rudra is a name for Lord Vishnu and it is believed that it is the tear of rage that fell from Shiva's eye hence Rudraksha. A bead may be valued at its weight in gold depending on the number of faces it has and its natural structure

Pipal – Sacred Fig (Ashvattha):

Lord Krishna describing himself in the Holy Gita says “ Among trees I am the Ashvattha”, tells the importance of this tree. The wood of this tree was used to fuel the sacred fire with which Gods granted knowledge to the human race. Lord Buddha got enlightenment under this tree also called as Bodhi tree and so Buddha is also known as Bodhisatva.

Neem –Margosa (Nimba):

Neem has perhaps the most powerful, and varied medicative properties. Its stems are used still today as a tooth brush and paste, the stem is chewed which releases juices which kill germs and cleans the passage, stops bad breath, chewing helps build strong gums and teeth. It forms part of a lot of Ayurvedic preparations and is also used to make tooth pastes antiseptic medicines, its leaves are kept in grain to prevent it from insects. Dried leaves burned drive out mosquitoes and other insects. Its leaves boiled and eaten prevents malaria.

Herbs – Medicinal Plants

An important exponent of Ayurveda, Charaka, has categorized medicinal plants into fifty groups according to the physiological actions of the medicines that can be extracted from them. Modern science has also followed this path and is continuously harnessing medications from plants. The aromatic plants like pepper, turmeric, ginger, cinnamomum, lemon grass etc. are exclusively used in the house-hold sector as natural food flavouring. Some of the aromatic plants which have the potential to be used in industry. The demand for natural aromatic resources is increasing in the international essential oil market. Essential oils which are obtained from the bark, leaves, flowers and fruits are natural sources for fragrance, flavour, spices and medicine.

Ashok – Asoka (Ashoka):

Ashoka means “unsorrowing”. A tree associated with women in India. The tree is believed to have sprouted out of a seed when kicked by a virgin. Its bark has astringent properties. Its flower buds are eaten which are highly nutritious and are believed to eradicate grief.

Amla – Emblic Myrobalan (Amlaki):

Amlaki translates to “The Sustainer” or “The fruit where the goddess of prosperity resides”. It is one of the richest source of Vitamin C. It is beneficial in problems relating to liver, excreting urinary waste. It has a cooling effect on the body.

The fruit is found to be antiviral, helps raise protein in the body, activates adrenalin response and protects against tremors and convulsions.

Kela – Banana (Kadali-Phala):

Banana leaves are a must for all religious ceremonies of India. It is also a part of marriage ceremonies. Its fruit and flowers are eaten and are beneficial to general health. Its flowers dried and powdered are used for gynecological purposes. Ripe banana is rich in minerals and vitamins.

Medicinal herbs as Cosmetics

The medicinal herb mentioned in ayurveda by experienced sages basically state that the function of ayurvedic herbs is to purify blood and eliminate vitiated doshas (vata, pitta, kapha) from the body as they are mainly responsible for skin disorders and other diseases.

Among the written information on ayurveda also, like in Charakh Sanhita, the sage Charakh stated numerous medicinal plants in Varnya Kashaya. The herbs mentioned can be used to obtain glowing complexion. Various herbs for which description and usage can be found in ayurvedic inscriptions are mentioned are: **Chandana, Nagkeshara, Padmak, Khus, Yashtimadhu, Manjistha, Sariva, Payasya, Seta (shweta durva), Lata (shyama durva).**

There is also the mention of various herbs from kushthagna Mahakashaya that are effective curatives for skin disorders. Few such herbs are: **Khadira, Abhaya, Amalaki, Haridra, Bhallataka, Saptaparna, Aragvadha, Karaviram, Vidanga, Jati.**

Like the notifications of charakh and other sages, Sushrut said that Eladi Gana contains: **Ela, tagar, kusstha, jatamansi, tvak, dhmamaka, patra, nagkeshar, priyangu, harenuka, vyaghranakha, shukti, stouneyaka, choraka, shriveshta, khus, goggol, sarjarasa, turushka, kundaru, agaru, ushira, devdaru, keshara, and padmakeshara.** All these herbs can eliminate toxins from the body, clear the complexion that leads to a glow on the skin and alleviates puritus, kusstha and boils.

Herbs In Cosmetics

Dated ages back, in the famous fairy tale of the snow white and Seven Dwarfs, the wish of the wicked step-mother to be the most beautiful woman on earth, even today strikes the chord that being beautiful irrespective of age, sex and color is not a thing desired just today.

As ayurveda the concept of beauty has an age-old origin. Whether in fairy tales it was the wicked mother or the fairy that beautified Cinderella on the ball night, creating beauty by magic potions or herbs proves that beauty, its concepts and cosmetics go hand in hand. Especially for females, the desire to look beautiful, charming and young by different beauty ways, using various herbs are things known by the world since centuries.

Ancient scriptures like Abhigyan Shakuntalam and Meghadootam of Kalidasa and many mythological epics encompass the reference of cosmetics like: Tilak, Kajal, Alita and Agar (Aquilaria agalbeha) that were used as body decorative and to create beauty spots on the chin and cheeks in the era ruled by gods and their deities.

In fact, the concept of beauty and cosmetics is as old as mankind and civilization. The famous depictions in the Ajanta and Ellora caves, Khajurao prove that not only women but men also adorned themselves with jewelry, scents and cosmetics. Enscripted in history is the Aryan period that witnessed the use of turmeric- haridra, (curcuma long, linn), saffron, alkanet, agar, chlorophyll green from nettle plants and indigo for bodily-decorations apart from using Raktachandan (pterocarpus Santalinus Linn), Chandan (Santalum Album) for beautification. Using Mehendi (henna) for dying hair in different colors and conditioning was also practiced in the olden times.

Common herbs used as cosmetics

According to ayurveda there are certain herbs that have their mention in the old ages also, such as:

Indigo: Being blue in color it was used as a bindi / Tika (dot) on the forehead and chin.

Madder Root: Being available in color that suits the lips this was utilized as to beautify lips and cheeks.

Hibiscus Rosa Cynensis (Jaswand or Shoe Flower): With dark color of its own this was used to blacken and maintain hair color.

Raktachandan: This was another natural component available in attractive color and hence was used as fresh, red bindi / Tika (dot) on the forehead.

Aloe Vera: With the traits that prevent aging and regenerate growth of cells this was used as an essential component to keep oneself fit and young and protect the skin and prevents and heals skin irritations.

Chandan and Vertiver (Usheer): It was used as scrubs and face packs that were applied on face and whole body to remove dead cells, regenerate growth of new cells and give a young look.

Haldi (Turmeric): It was used as a face pack along with usher (Vertiver) and also as an antiseptic

Culinary Plants

Ayurveda says that we are (to a great extent) what we eat. Thus Dietetics forms an integral part of Ayurveda. Again in this section there is a varied classification of edible and potable substances. The science of Ayurveda was at its peak when the teaching of Buddha had enlightened the masses and thus Ayurveda is more concentrated on vegetarianism however in exceptional cases animal products may also be prescribed in Ayurveda.

Jeera – Cumin (Jiraka):

An important spice used by Indians to season curries, pickles and bread. It is beneficial in digestion, gastric troubles, dysentery and diarrhoea when roasted and consumed. It is also used to make gripe water for infants and is also beneficial for pregnant women and nursing mothers (it increases lactation). It forms an important ingredient in food preparations which are cooling, appetising, protect against indigestion and a lot of water borne diseases.

Kalimirsch – Black Pepper (Marica):

Pepper was one of the most important merchandise among trades with Greeks, Romans, Portuguese and other countries during the past and still is to this day. An excellent preservative it is used in a variety of recipes and Ayurvedic preparations. It is

beneficial in problems like colds, coughs, catarrhs, constipation and bronchial complaints. It was also used to make a medicinal preparation against Cholera.

Dhaniya – Coriander (Dhanyaka):

One of the most important culinary plants of India, it is used in almost every household sprinkled over curries and vegetables and its seed are used as spices in a variety of ways. It helps in the easy passage of urine and also as a coolant to do away with fevers. It may also be used as a gargle to treat ulcers or as an eye- tonic to treat conjunctivitis.

Aam –Mango (Amra):

Mango is said to be the king of all fruits. Mangoes are rich in Vitamin C and are highly effective in sunstrokes and thus are used in a variety of summer drinks. The pulp is used in decoctions for treatment of diabetes and blood pressure. Its twigs are antiseptic and are used as toothbrushes. Its seed powdered is used to counter vaginal discharge and also to cure dysentery.

ILaichi – Cardamom (Ela):

ILaichi has long been cultivated in India for its culinary, aromatic and medicinal properties. It is beneficial in disorders like retention of urine, stomach disorders, respiratory diseases. It is also used to add flavour to Ayurvedic preparations and foods as well.

Lasan – Garlic (Rasona):

Garlic is largely used in a large amount of food preparations all across India. Garlic destroys bacteria. Eaten raw with salt it cleanses blood and also used in nervous disorders like headache and hysteria. It is used in rheumatism, as an expectorant for lungs, to reduce cholesterol as well as blood pressure. Crushed and mixed with coconut or mustard oil, it is used as an antiseptic

Adrak – Ginger (Shunthi):

Ayurveda symbolises Ginger as “Universal Remedy”. Eaten fresh it is an excellent as a digestive and carminative. It is widely used as a preservative and also forms part of a lot of Ayurvedic preparations. Dried ginger is called as the “Great Medicament” by Ayurveda, it is beneficial against colds, coughs, rhinitis, bronchitis and indigestion. It is also prescribed for abdominal distention, colic diarrhoea and nausea. Crushed ginger is applied to the forehead to ease up headaches and colds. Ginger candies are used as throat lozenges. It is a widely acclaimed anti-cholesterol and an anticoagulant. It is also a stimulant.

Dalchini – Cinnamon (Tvak):

Cinnamon is widely used as an aromatic in Ayurvedic preparations as well as the Indian cuisine. Cinnamon is the dried inner bark of the tree but its oil is also beneficial against headaches, rheumatic pains, early morning stiffness and body pain during winter and rains. The bark is often boiled and its vapours inhaled for coughs, colds and sore throats.

Cosmetic Plants

Cosmetics that have been described in classical Indian poetry have come a long way through the harems of royals as well as through the houses of women of desire and are still very popular. These cosmetics are used to supplement beauty and health to the skin, hair and for other body treatments.

Mehandi – Henna (Madayantika):

Henna has been used as a cosmetic for thousands of years now, not only does it add to the beauty of the person but also has medicinal properties as it is an effective anti irritant, a deodorant and an antiseptic. Ayurveda also recommends it especially during the summer because of its cooling properties. It is used for boils, burns, bruises and skin inflammations. It is applied by women in a decorative way on their palms and feet and it is widely used to dye hair and to add luster to it. It gives a reddish brown effect after drying.

Ritha – Soap Nut (Aristaka):

Widely used for centuries as a home made shampoo. It adds life and luster to the hair giving it a radiant look and shine as well making it healthy. It also is beneficial in eradicating dandruff and its regular use is advised. The oil extracted from this is used to make Ayurvedic medicines for diarrhoea and cholera. Other preparations made out of this are used for making nose drops for hysteria, epilepsy and hemiparesis.

Haldi – Turmeric (Haridra):

Turmeric has strong antiseptic and aromatic properties. Its paste is applied over the body after an oil massage and before a bath for cleansing and also as an antiseptic making the body free of microorganisms. It is an essential part of the Indian cuisine because of its numerous qualities. Its oil has anti inflammatory effect. It is applied on wounds and bruises for its antiseptic properties and is also taken with milk to cure coughs and other respiratory disorders.

Nimbu – Lime (Nimbuka):

Nimbu or lemon, it has an astonishing amount of Vitamin-C in it which is very beneficial for the skin and hair. It forms a part of Indian cosmetics, Ayurveda and cuisine alike. It is a traditional hair conditioner, it removes excess grease secreted by the scalp as well removes dandruff. Lime juice mixed with rose water forms an excellent skin tonic. Lime juice eases stomach disorders, improves appetite and also beneficial in case of dehydration.

Kesar – Saffron (Kumkuma):

Saffron is obtained as the stamen of the crocus plant. A large number of flowers are required to produce a very small quantity of Saffron which makes it expensive. It was largely used by royals as a paste for the face to do away with pimples and rashes. It is an antiallergenic and is also supposed to be an aphrodisiac for men. It is also used to tone the uterus after childbirth and also to regulate gynecological disorders, for treating fevers, spasmodic coughs and asthma. It is also believed to improve vision.

Paan – Betel Leaf (Tambula):

One of the earliest breath freshner, it is taken with areca nut and burnt lime paste to deliver red colour to the lips and the mouth. It is an aromatic, stimulant, carminative, astringent, aphrodisiac and an antiseptic.

Common Herbs

Herbs are obtained from a variety of plants which are broadly divided into five categories.

1. Sacred Plants: Nature worship was a common phenomenon in the earliest civilisations as these forces provided all the basic necessities of the people and gradually people found out the importance of some plants to be of great benefit to them. And about 3000 years BC we find the evidence of actual worship in the Indian subcontinent as well as a reverence for nature as a source of medicine. This practice is much older than the period when Ayurveda became a serious science.

2. Medicinal Plants: An important exponent of Ayurveda, Charaka, has categorized medicinal plants into fifty groups according the physiological actions of the medicines that can be extracted from them. Modern science has also followed this path and is continuously harnessing medications from plants.

5.4 Form of Employment :

In the district Jalaun large number of the working population is engaged in agriculture. The marginal productivity of the farmers is very low, some where it is zero and some where even it is negative too. At the same time in the industries the productivity of labour is not zero but it is higher than in the agriculture.

The form of employment in the agro-based industries of the district Jalaun has been analysed as the ratio of unskilled labour and the skilled labour is 5 :1. however unskilled labour also include the semi-skilled labour in the analysis.

As in the district nearly 80 % of the population live in the villages so the number of unskilled labourers are much more than the skilled labourers. Also in the agro-based

industries the very much skill ness is also not required so there exists great opportunities in the agro-based industries for the employment generation.

Agro-based industries may also be started with low investment of capital and in the form of cottage and villages industries. Further for developing such industries Self Help Groups are also being made in the district and they are producing many products. In such groups many man and women are getting employment and also these industries are fulfilling the local demand of many products, like Pickles, Papar, Sauce etc.

5.5 Localisation of Industries :-

The Jalaun district is divided into 5 Tehsil & 9 Community development blocks. Tehsils are Orai, Jalaun, Kalpi, Konch and Madhogarh and Blocks are Dakor, Jalaun, Kuthond, Kadaura, Mahewa, Konch, Nadigaon, Madhogarh and Rampura.

Orai :- In Orai many agro- based industries are established. In Orai main agro-based industries are Dal Mills, Oil Mills, Flour Mills, Spices and Bakery industries. But most of the Spices industries and Bakery industries are not registered as they are producing spices and bakery products in unorganised manner. Although mostly Dal Mills, Flour Mills, and Oil Mills are registered. In Orai there are also many Milk Dairy working properly whether in organised or in unorganised way. Milk dairy are producing the Ghee and Paneer. In Orai there are also many food products units but most of them are not registered.

Recently, the scope of agro-forestry i.e. herbal plantation is increasing. Many farmers are now farming of Safed Moosely, Sahajan and jetropha. These herbs are used in medicine and also in cosmetic items.

Jalaun :- In Jalaun seed processing units are established. There is also a farm house in which the herbal plantation is being made. Safed Moosely and Lemon Grass is being planted. At the same time the milk dairy, bakery industries and some other types of products like peanuts items and others are also produced.

Konch :- In Konch there is one fish hatchery of 16 hectare managed by Fisheries Development Corporation in which various types of Fish culture are developed and sold out. There are also some Dall Mills and Oil Mills working in organised way and

Bakery industries are working in unorganised way. The floriculture is also developing in Konch territory.

In Konch area the farming of peppermint plants is also in practice in large scale. There is big production of peppermint oil in the district. Many big and small units for extracting peppermint oil are established and working properly. The most of the peppermint oil is marketed to other district and big cities. The rate of peppermint oil is very fluctuating and lays near about between Rs. 375 to Rs. 600 per kg. the main reason of this fluctuation is the demand and supply factor, in other words when there is more supply than demand the rate of peppermint oil falls and vice versa.

Although there are many units of extracting peppermint oil yet there is no unit of making peppermint crystals and further processing. There is great scope of value addition in peppermint oil and the market price of such products is also very high.

Thus in the district there is great opportunity of establishing peppermint oil extracting and further processing units.

Kalpi :- In Kalpi Tehsil there are many units of hand made paper. This; hand made paper is a special type of product. As per the information received there are nearly 42 units in which nearly 5000 persons are employed. This industry is basically labour-intensive industry but in recent years some units are also using machines for quick and large production.

For producing the hand made paper the used raw materials are jute, rough paper and cloth cuttings etc.

As per a estimate for establishing a unit in proper way nearly the amount of Rs. 15 lakhs is required. In such unit the business may be made up to Rs 5 crore in a year out of which the export of the product amounting to Rs. 2 crore is possible. Thus there is great opportunity in this sector. Such units are localized in Kalpi only.

The hand made paper is like a sheet which can be used for making coloured, designed or plane paper. Many goods are made with this product, as file cover, carry bag, office folders, portfolio bag etc. The things made by handmade paper are good in quality and also light & long life.

Madhogarh :-In the Madhogarh there are some Oil Mills. Milk dairies are also working in unorganised way, but these dairies are giving their full participation in the production of milk, ghee and Paneer.

5.6 Performance of Production :-

The performance of production of the industries of district Jalaun vary from industry to industry. When we see the performance of hand made papers, it is quite well so the market of this product is wide and that's why it is also exported. But we may not just jump in to the conclusion that there is no need of the further quality improvements. In this industry modern techniques may also be used to improve the quality as well as the production.

The products of bakeries; situated in Orai & Konch are not qualitative. These products are consumed within the district and rarely are marketed to the other district. The quality development in this sector is very necessary so that this sector may further develop as there is great opportunity in this sector. The performance of flour mill, dall mill and oil mill is satisfactory.

The herbals plantation industry is under developed in the district. As there is great opportunity in this sector. The plantations of Safed Moosely, Jetropha and Sahajan are growing in the district yet it is not to the extent, it should be. Although the soil of the district is supporting to the farming of these herbs and many NGOs and government departments (like SISI and Fragrance & Flavour Development Centre) are promoting farmers for the farming of these herbs. These herbs are very beneficial to the farmers from the productivity point of view as well as for the manufacturing of medicines and herbal cosmetic items.

The quality of the peppermint oil is also quite well as this oil is sold to other districts and cities. Although there is good production of peppermint oil, yet the farmers as well as the entrepreneurs are not aware of the fact that there is very good opportunity in this sector. There exists great scope of establishing units of making peppermint crystals and further value addition in oils and in crystals.

Many units are making various types of spices and marketing these spices within and out side the district. The production of some spices industries is qualitative, yet some

unit's production is poor in quality. The spices industry of the district is facing big competition in price with the other units established outside the district. The spices industry of the district is mostly dependent on the raw material purchased from the District or from the Kanpur and Lucknow. Mostly the raw material is not purchased from the source so it creates high costing and leaves extra burden on the industry. Thus the market price of the spices of these industries is high in comparison to the other brands. And the units which are selling their products at low rate, they fails to maintain the quality of the products.

5.7 Questionnaires

(A) QUESTIONNAIRE REGARDING THE INFORMATIONS OF AGRO-BASED INDUSTRIES

- 1 Name of The Company/ Firm :
- 2 Name of The Candidate :
- 3 Designation :
- 4 Main Product of The Company / Firm :
- 5 Raw Material Used :
- 6 Availability of Present Source :
- 7 Marketing Source (Channels of Distribution)
Direct : Agent : Agencies : Home Delivery :
- 8 Marketing Problems :
 Lack of Agents :
 Quality :
 Price :
 Commission :
- 9 Employment Generation : No.. of Workers
 Skilled :
 Unskilled :
- 10 Source of Finance: Amount Rate of Interest
 Proprietors Capital
 Bank: C.C
 T.L
 O.D
 N.B.F.C.
 Others
- 11 Production Process :
 Assembling
 Manufacturing
 Processing
 Refining
- 12 Utilisation of Machines

**(B) QUESTIONNAIRE REGARDING THE INFORMATIONS FROM THE
GOVERNMENT INSTITUTIONS**

Name of The Institution:

Head Office :

Branch Office :

Name of The Assisting Candidate :

Designation :

Other Institution :

Government's Scheme To Provide Assistance To -

Agriculture Sector :-

Financial Assistance :

Technical Assistance :

Industrial Sector :-

Financial Assistance :

Technical Assistance :

Institutions Assistance Provided To :-

Agriculture Sector :-

Financial Assistance :

Technical Assistance :

Industrial Sector :-

Financial Assistance :

Technical Assistance :

CHAPTER-VI

**MANAGEMENT & CAPITAL INVESTED
IN INDUSTRIES**

CHAPTER -6

MANAGEMENT AND CAPITAL INVESTED IN INDUSTRIES :-

6.1 Sources of Capital :

In order to access the prevailing system regarding Industrial as well as Agricultural finance in rural sector, it would be proper to have an idea of the various agencies presently engaged in providing it , & thereby adjudge the advisability & urgency of the age old traditional agricultural finance in the present context, especially keeping in view the growing awareness and trends towards mechanized large scale farming and bullock plough economy losing grounds and small holdings becoming uneconomic and unfit.

The sources of capital is classified in to two category, such as

- (A) capital available for agriculture sector and
- (B) capital available for industrial sector

Sources Of Capital For Agriculture Sector

The agriculture – finance is further classified as under :

- 1- Non- institutional agencies
- 2- Institutional agencies

Non- institutional agencies :

The main component comprising non- institutional agencies providing rural credit are, village moneylenders, rural traders, owners of large holding viz. Landlords, Pledgers, Pensioners, Widows, relatives of the farmers and village shop-keepers. Of all these agencies engaged in providing agricultural finance. individual village moneylenders till recently had been the most important source, so far as advancing loans & volume of business is concerned.

When planned Economy was introduced in 1950-51 non- institutional agencies share in rural finance accounted for as large as 92.7 % of the total agricultural finance, the village moneylenders having the upper most hand.

The village moneylenders in rural areas are of two types :

1. Professional Moneylenders
2. Non-professional moneylenders.

Professional moneylenders generally known as 'Sahukars or Mahajans' are persons whose wholesale concern is lending money for all productive and non-productive purposes & for short, medium and long term. Very often his business is handled down from generation to generation or from father to son & so on & so forth.

On the other hand non-professional money lender is primarily interested in farming or in some trade or profession but lends money to augment his income. Thus he combines his business with trading in village produce. Village shopkeepers also act as money lenders. Similarly Pledgers, landlords & widows, living in village or living in neighbouring towns & cities, having some interest or the other in rural property or land holdings as ancestral boon also lend money on the basis of some tangible security in form of land or ornaments.

The overwhelming importance of non-institutional agricultural finance can be traced to many reasons. The first & the foremost reason being numerical inadequacy of institutional finance, un-coordinated planning & the natural apathy of the white collard jobbers towards rural uplift by the institutional agriculture finance agencies. Besides, there are many plus points favouring the village moneylenders & other non-institutional agencies to play a pivotal role in the agrarian economy of the country & the district Jalaun as well. These are

1. All time availability,
2. Easy accessibility & proximity,
3. Simplicity in legal formalities,
4. Spontaneity,
5. Self sufficiency & timely cheap loan ability,
6. Flexibility avoiding rigidity in repayment of loan,
7. Generosity,

8. Magnanimity & sociability in weal & woe & above all being ever thrifty to the thriftless peasantry.

But all that glitter is not gold. Village moneylenders & other non-institutional agencies as well as have been nicknamed as a dangerous inescapable necessity & a helping cord to the hanged person. This is because there are serious shortcoming & deceptive duping device in the working of these agencies. Small area of operation, paucity of lovable funds, high as well as compound rate of interest, preference to short term loans, partially or wholly monopolistic tendency to extract maximum gain, usurp many other pecuniary benefits, manipulation of accounts, fraudulent practices & foul pranks played upon & undue advantage taken on account of poverty helplessness unavoidable urgency of the illiterate villagers exploited by hook or crook & non-issue of receipts very often adds injury to the Chronic wounds of indebtedness.

As wolf has aptly remarked, "The Country has been in the grip of 'Mahajans' It is the bend of debt that has shackled agriculture". According to the Famine Commission of 1880 & 1901, at least 4/5 of the cultivators were in debt & were fast losing the possession of their lands, as indebtedness went on mounting. No scientific & systematic treatment of Indian agriculture debts was attempted till the seventies of the last century. The Deacon Riots Commission in 1875 observed that 1/3 of the farmers on Government land were in debt. This indebtedness according to various surveys from time to time increased to great magnitude as can be seen by the following figures :-

1.	Edward Maclagan	1911	Rs. 300 Crores
2.	Mr. Darling	1923	Rs. 600 Crores
3.	Indian Central Banking Enquiry Committee	1934	„ 900 „
4.	P. J. Thomas	1935	„ 1200 „
5.	P. J. Thomas (between 1929 & 1933)		„ 2200 „
6.	The Reserve Bank of India		„ 1800 „
	The Agriculture Credit Deptt. 1937		„ 1900 „
7.	Dr Naidu		
	Madras Enquiry Committee	1945	„ 1300 „
8.	S. Thirumalai	1945-50	„ 1800 „

The great vicissitudes are the result of depression of early thirties, famine during seventies & the second World War from 1939-1944-45. whenever there was slump or recession in the market, the small farmers had to suffer as they had neither bargaining power nor hoarding power & were compelled to sell at cheap rates, while during World War second, the prices shoot up, the benefit was pocketed by the larger farmers and landlords. Similarly during draught & famine the poor farmers were the worst sufferers as they had to purchase seeds or corn for sowing & for daily consumption at high rate. Consequently indebttness went on amounting to alarming stage.

Thus whether it is the village money lender or any other existing non-institutional financial agency, without exception is not immune from any of the aforesaid vices & vindictiveness. These agencies are surely not an unmixed blessing. To exemplify, loans even from relatives given at cheap rates & soft terms, unmindful of the purpose of loan are taken very easily & so spent very easily too mostly in unproductive channels, thereby adding a dead weight of indebttness to the beneficiary. All India Rural Credit survey Committee Report aptly remarked, "Private Credit, generally unsuitable, is wholly unsuitable in the context of planning for larger production."

This brings us to give a thought to analyse & scrutinize the validity of the above statement, which points out to two facts namely :

1. Private or non-institutional credit generally unsuitable
2. Wholly unsuitable in the context of planning for larger production.

To my mind the underlying thought is towards their short comings such as paucity of the much needed loanable fund, the high rate of interest & compound interest wholly undesirable to the poverty stricken masses.

Institutional agencies:-

Institutional credit agencies have forged ahead and have become successful in putting stronghold over the village moneylender who by nature was undoubtedly inadequate, highly expensive & exploitive source of credit supply. Of course his monopoly has been threatened to a certain extent, but at the same time the picture of institutional finance to

agriculture that has emerged out has remained far more satisfactory. Dozens of Institutional financing agencies, one after the other have been brought in since Independence on regional state & national level to supply cheap, timely & adequate credit. Cooperative credit in 1904, Commercial banks in 1969, Regional Rural Banks in 1975, Agriculture Refinance & Development Corporation 1963, NABARD in 1982 were created to augment regular supply of credit to rural sector & above all State Bank of India in 1955 with its multifarious branches all over the country was directed to actively assist rural credit together with Reserve bank of India with its Agricultural Credit Department 1935-37 was to work as the 'lender of the last resort'.

As Institutional Agencies are Commercial Banks, Co-operative Banks and Government sources. Policy on agriculture credit aims at progressive institutionalization of credit agencies for providing credit to farmers for raising agricultural production and productivity. Agriculture credit is disbursed through a multiagency network consisting of Co-operatives, Commercial Banks and Regional Rural Banks (RRBs).

The flow of institutional credit for agriculture and allied activities which was Rs. 31,956 crore in 1997-98 is estimated to have increased to Rs. 53,504 crore in 2000-2001. The total credit flow from all agencies is projected to reach a level of Rs. 66,771 crore by 2001-02. The total credit flow to agriculture during the period 1997-2002 is likely to be of the order of Rs. 2,33,700 crore which is close to the ninth plan projection of Rs. 2,29,000 crore.

For the Tenth Plan Period (2002-07) the credit flow into agriculture & allied activities from all banking agencies is projected at Rs. 7,36,570 crore which is more than three times the credit flow during the Ninth Plan. The target for credit flow for the agriculture & allied sector for the current year is Rs. 82,073 crore.

Flow of Institutional Credit to Agriculture (Rs. In Crore)

Institutions	1997-98	1998-99	1999-2000	2000-01 (\$)	2001-02 @	2002-03 Target
Co-operative Banks	14085	15957	18363	20784	27080	35111
Per cent Share	44	43	40	39	42	43
Short- term	10895	12571	14845	16564	21542	24711
Medium/Long-term	3190	3386	3518	4220	5538	10400
Regional Rural Banks	2040	2460	3172	4219	4956	5745
Per cent Share	6	7	7	8	8	7
Short- term	1396	1710	2423	3239	3415	3145
Medium/Long-term	644	750	749	980	1541	2600
Commercial Banks	15831	18443	24733	27711	31964	41217
Per cent Share	50	50	53	53	50	50
Short- term	8349	9622	11697	13480	16004	17073
Medium/Long-term	7482	8821	13036	14231	15960	24144
Total	31956	36860	46268	52714	64000	82073
Per cent increase	21	15	26	14	21	28
\$ provisional @ Estimated						

Source : NABARD

Sources Of Capital For Industrial Sector :-

In the development of Industrial Sector, the finance plays a vital role. The finance works in any Industry as the blood works in the body. The various sources of Industrial Finance are divided in to two category :

- (1) Internal Sources
- (2) External Sources

INTERNAL SOURCES : In the internal sources of Industrial Finance, mainly are Shares, Debentures and ploughing back of profits.

(A) Shares :- As per the rules and regulations of the Indian Companies Act ,1956 the company can raise the capital from the capital market by issuing shares of the company. The company can issue two types of shares i.e. (a) Preference shares and (b) Ordinary shares.

(B) Debentures :- The company also raise the capital by issuing Debentures. Debentures attracts to those investors who are not capable of taking risk or do not want to take the risk. In the recent years debentures have been very famous among the investors. Mainly debentures are of two kinds as (1) convertible and (2) non-convertible.

(C) Ploughing back of profits :- In India it is not the easy task to collect sufficient money for the industrial development . Because of the low level of capital formation and due the necessity of capital for other plannings of development, the Industries find difficulties in obtaining the finance. In such situation in private sector the most appropriate means of capital formation is the ploughing back of profits. In the Five Year Plans the importance of ploughing back of profits has been accepted.

EXTERNAL SOURCES :- In the external sources of Industrial Finance, mainly are (1) Public deposits, (2) Commercial banks and (3) Financial institutions providing industrial finance.

(A) Public deposits :- Accepting public deposits by Indian industrial companies is the feature of Indian industrial financing system. In the Western countries the public deposits are not the means of capital of Western industries. In India the main responsible factor for the development of this system is the too late development of Indian banking system. There existed the system of depositing the savings with the businessman for the consideration as interest before the development of Indian banking system. The establishment of industries in Mumbai and Ahamdabad led to the inflow of public deposits in to the industries, as it was the result of the great efforts of the managements. A big part of capital invested in the Cotton Textile Industries situated at Ahamdabad,

Mumbai and Sholapur is from the public deposits. The public deposits are of both two types as Short term and Long term.

Although in the Planning Period the Industries progressed yet the importance of this resource has declined. The main reason of the decline of this resource is that the investors like to purchase debentures in instead of depositing in the company. Debentures are transferable and are dealt in stock exchanges . The investor may get loan on the security of such debentures but this facility is not available in public deposit.

(B) Commercial Banks :- The commercial banks also provide short term, medium and long term loans to the industries except providing loans for the business. The share of commercial bank's loans to the industries is continuously increasing in India. The bank credit occupy the second position in Industrial financing from the quantitative point of view.

At present 27 commercial banks in public sector are working in the country. Out of these 27 banks , 19 banks are nationalised banks (Earlier this number was 20 but New Bank of India was merged with PNB leaving this number to 19).

Commercial Banking system in India consisted of 297 scheduled banks (including foreign banks) and one non-scheduled banks at the end of the December 2000. Over the period March 1999 to March 2000, the number of scheduled banks decreased by 8. Of the scheduled banks, 223 are in public sector and these account for about 82 % of the deposits of all scheduled banks. There are 196 RRBs specially set up to increase the flow of credit to small borrowers in the rural areas. These banks are also categorized as scheduled commercial banks. The number of nationalised commercial banks is 19.

At the time of bank nationalisation (i.e. July 1969) there were 8262 branches of various commercial banks (1860 in rural areas and remaining 6402 branches in urban areas). In other words in 1969 only 23 % of the total bank branches were working in rural areas. But on June 30, 2002, total number of bank branches increased to 66239. Presently, 49.0 % of total branches are working in rural areas. There is one bank branch working for 15000 population while there was one branch for 64000 population in 1969.

(C) Institutional Finance for Industries :- With the end of Second world War, there was great urge for speedy industrial expansion. At the same time, there was also a great need for modernisation and replacement of obsolete machinery in already established industries. The usual agencies meant to provide finance for large-scale industries were either apathetic or were found inadequate and hence the Government of India came forward with a series of financial institutions to provide funds to large industrial sector. It set up the Industrial Finance Corporation of India (IFCI) In 1948, The Industrial Credit and Investment Corporation of India (ICICI) in 1955, the Industrial Development Bank of India (IDBI) in 1964, the Industrial Reconstruction Bank of India (IRBI) in 1971, now called IIBI, the Export and Import Bank of India (EXIM BANK) in 1982 and so on. In recent years, the Government set up the SCICI (later merged with ICICI), Risk Capital and Technology Corporation Ltd.(RCTC), Tourism Finance Corporation of India Ltd.(TFCI) and Technology Development and Information Company of India (TDICI). At the state level, the State Financial Corporations (SFCs) and the State Industrial Development Corporations (SIDCs) were set up. All these institutions have come to be known as public sector financial institutions or term lending institutions. The Narasimham Committee (1991) called them Development Financial Institutions (DFIs).

6.2 Form of Capital

Actually for keeping the cost minimum or to say for avoiding from the over-capitalisation as well as from under capitalisation it is essential to have as much capital as required. Keeping in mind this concept of financial management the various financial institutions provide loans to agriculture and industrial sector as much as required. It is suggested to the farmers as well as to producers to take the loans from the various financial institutions only to the extent to required, or to say both under-capitalisation and over-capitalisation is harmful for the agriculture as well as for industry. Forms of capital for agriculture and industrial sector is as under :

For the agriculture sector three types of loans are provided to Indian farmers to meet their financial requirements—

1. Short term loans
2. Medium term loans
3. Long term loans

Short term loans are provided for a period of less than 15 months to meet out expenses of routine farming and domestic consumptions. This type of loans is deemed by farmers for purchasing seeds, fertilizers and for meeting out family requirements.

Medium term loans are provided for a period of 15 months to 5 years to purchase agriculture equipments, animal and land improvements,

Long term loans are provided for a period more than 5 years. This type of loan is taken by the farmers to purchase land and expensive agricultural equipments and for repayment of old loans.

Indian industries also need three types of finances :

1. Short term loans
2. Medium term loans
3. Long term loans

Long term finance are required to purchase permanent assets like land, building, machinery etc. Industrial units also need long term finances for their extension and re-establishment.

Medium term finance is generally a part of long term finance. Besides, industrial units has to arrange raw material, intermediate goods and to meet out daily expenses.

Short term finance is required for all these purposes.

As it has been already discussed above that Industrial finance in India includes major sources like shares and debentures, deposits from public, credit from banks and industrial finance institutions. The major industrial finance institutions are :

IDBI, IFCI, ICICI, SIDBI, UTI, IIBIL, NABARD, EXIM BANK, SFCs, LIC, GIC
And its associate companies.

All the above mentioned financial institutions arrange medium and long term finances for industrial units. Scheduled commercial banks play the important role in providing short term finance to industrial units. Deposits from public and indigenous bankers are also the important sources of short term finance.

6.3 Financial Assistance

The financial assistance provided by the financial institutions has made growth during the Planning Periods especially in last two decades. During the period 1960-61 all the financial institutions have accepted to provide 60.50 crore assistance but out of which 29.80 crore were delivered for assistance. The establishment of IDBI in 1964 made very fast changes. In the year 1965-66 the total sanctioned assistance was increased to Rs 190.3 crore and total delivered assistance was Rs 119.8 crore. During the Seventh Five Year Plan Period, there was the rapid growth in assistance. Actually 67.5 per cent of the total assistance upto march 1990 was accepted in the Seventh Plan Period. All the financial institutions made finance assistance available of Rs 5,20,653 crore upto the year 1998-99 out of which Rs 3,62,711 crore has been delivered.

6.4 Other Form

As agriculture productivity plays an important role in the development of Agro-based industries. And there is a positive correlation between agriculture production and the development of Agro-based industries, at the same time the agriculture productivity is also directly correlated with the agriculture finance, so the agriculture finances have importance in the development of Agro-based industries.

Upto 31 March, 2001 the 31,434 branches of banks were making available the agriculture finance. In cooperative sector 91,720 Primary Agriculture Credit Societies, 364 District Central Cooperative Banks, 28 State Cooperative Banks are making available agriculture finance. In the agriculture sector 19 State Land Development with their 2,337 branches are making available long term loans.

The total loan flow to agriculture and allied activities increased from Rs 31,956 crore in 1977-78 to Rs. 53,504 crore in 2000-01, while it is expected to be Rs. 66,771 crore in 2001-02.

The total loan flow from commercial banks to agriculture sector has increased from 50 per cent in 1997-98 to 52 per cent in 2000-01.

To facilitate access to credit from Commercial Banks and Regional Rural Banks a new Scheme called 'Kisan Credit Card Scheme' was introduced in 1998-99. The salient features of the scheme are as given below :

1. Farmers eligible for production credit of Rs. 5000 or more are eligible for issue for Kisan Credit Card.
2. Eligible farmers to be provided with a Kisan Card and pass book or card-cum-passbook.
3. Entire production credit needs for full year plus ancillary activities related to crop production considered while fixing limit. In due course, all activities and non-farm credit needs may also be covered.
4. Limits to be fixed on the basis of operational land holding, cropping pattern and scale of finance.
5. Sub-limits may be fixed at discretion of banks.
6. Cards valid for three years subject to annual review.
7. Each drawl to be repaid within 12 months.

Progress of the Scheme : The Scheme ha been proved as an innovative mechanism for facilitating access to short term credit to farmers. The scheme has gained popularity and its implementation has been taken up by 27 commercial banks, 378 co-operative banks and 196 RRBs throughout the country. The number of cards issued and the amount sanctioned under the scheme has increased in each successive year since its inception to reach a total of over 271 lakh cards involving an amount of over 64000 crore by September 2002. Co-operative banks accounted for 66% of Kisan Credit Cards followed by commercial banks (27%)and RRBs (7 %).

Number of Kisan Credit Cards Issued and Amount Sanctioned

(Cumulative Progress upto Sept. 2002)

Agency	Cards Issued (in Lakh)	Amount Sanctioned (Rs. Crore)
Co-operative Bank	175.85	40333
RRBs	21.20	5211
Commercial Bank	74.76	18521
Total	271.81	64065

CHAPTER-VII

**EMPLOYMENT OPPORTUNITIES
IN INDUSTRIES**

CHAPTER- 7

EMPLOYMENT OPPORTUNITIES IN INDUSTRIES :-

7.1 Skilled and un-skilled labour :- Indian labour is very less skilled in comparison to other countries. Prsshulk- mandal (1926-27), H.P. Modi (President, Mumbai mill owner's association) Sir Alexgendar Mekravart and Sirclement sympsan stated that the productivity of Indian labour is less than the productivity of the labour of Britain, America and even China and Japan. But all these thoughts are one sided. Since the labour of the other country get more facilities in comparison to Indian labour so the skill ness and the productivity of the other country's labour is more than that of the Indian labour.

The Indian labour has to work with low quality of material and obsolete and damaged machines. The management of the industry also have not the qualification as required and frequently are below qualified in comparison to other developed countries.

Keeping in mind all these factors it seems that the Indian labour work hard in comparison to other countries. The skill ness and efficiency of the Indian labour is litigated.

The Indian labour is not self responsible for low productivity. Actually there are many internal and external factors, which affect the skill ness and the productivity of the labour. Some of the responsible factors are as below :

(A) Internal factors :- In this category those factors are included which are related to internal arrangement of the industry. As

1. Large number of working hours
2. Unhealthy atmosphere
3. Low wage rate
4. Poor quality of raw material
5. Use of old and obsolete machines
6. Lack of motivation for more working etc.

(B) External factors :- These external factors affect the efficiency and skill ness of the labour from the out side i.e. from the out side of the premises of the industry. Some of these factors are as follows:

1. Hot atmosphere as it creates laziness
2. Unhealthy and dirty houses of the labourers
3. Lack of welfare works
4. Lack of trainings etc.

In the district Jalaun there is one **I.T.I.** college for providing the professional education and making the persons skilled. In the college, training in various trades are provided through two year, one year and six months professional courses. The details made available from the **I.T.I.** college are as follows :

S.N.	Profession	1 st year	2 nd year	Total	Course duration
1.	Fitter	24	20	44	Two Years
2.	Turner	15	26	41	„
3.	Machinist	15	12	27	„
4.	Electric	23	17	40	„
5.	Motor mechanic	19	16	35	„
6.	Radio/T.V.	18	14	32	„
7.	Electrician	17	18	35	„
8.	Wire man	17	20	37	„
9.	Painter	10	-	10	One Year
10.	Tractor mechanic	22	-	22	„
11.	Diesel mechanic	24	-	24	„
12.	Welder	15	-	15	„
13.	Plumber	14	-	14	„
14.	Cutting/Tailoring	09	-	09	„
15.	Hindi typing (male)	06	-	06	„

Except above there is also a Polytechnic college for providing the high level professional education, having two trades as Civil engineering and Stenography/ Secretarial practice. As per the information received from the Government Polytechnic the course duration is three years of Civil engineering. In the session 2001-2002 there were 15 trainees in the first year, 12 trainees in the second year and 8 trainees in the third year. Similarly the course duration is two years of Stenography/ Secretarial. In the same session there were 30 trainees in the first year and 18 trainees in the second year. In the session 2000-2001, 8 trainees appeared and passed in the last year in Civil engineering and the successful trainees in Stenography were 18 trainees.

Except the above two trades, the extension of facilities of training in various other field would be very beneficial to the trainees as well as to the industries of the district.

As in the district the professional colleges like I.T.I. and polytechnic give trainings in various fields. At the same time some private organizations and NGOs are also making efforts to make the persons trained in the various fields. The NGOs are also promoting the small and cottage industries in the villages through 'Self Help Groups'. Thus although the skilled labourers are not available in adequate means, yet the efforts should be made to increase the skilled labourers for agro-based industries and there should be no pretension of the availability of skilled labourers for the development of the agro-based industry.

The agro-based industries of the district require both type of labourers, as skilled and un-skilled. The analysed datas of agro-based industries reveals that the ratio between the skilled and un- skilled labour is 1:5 which indicates that 1 skilled labour may control and make trained 5 unskilled labour. The data indicates that 55.12 % of the working population is engaged in agriculture and near about 22.99 % of the working population work as agricultural labour. The ratio in home industry, non-home industry and manufacturing is respectively 1.11%, 2.49% and 1.11%, which is very low. Since in the agriculture sector the marginal productivity of the labour is zero or negative too, so it is very important to utilise the labour force in the field where the marginal productivity of the labour is high. Thus the excess labour of agriculture sector may be utilized in the agro-based industries. So it is clear that there is no scarce of unskilled labour.

7.2 Level of labour :- Since our factory industries have been growing very slowly since the middle of the 19th century, factory or industrial labour has also been increasing slowly.

In 1900, the number of workers in our factories was only 5 lakhs, between 1950 and 1993, the estimated average daily employment in working factories has increased from 3 million to 9.1 million. Industrial labour is only about 3.0 per cent of total working population or about 32 percent of workers engaged in industries. This is a small percentage indeed. But on account of its organisation and contribution to national income, industrial labour occupies an important place in the economy of the country. A contented industrial labour will be a great asset to India, but a dissatisfied industrial labour acts as a drag on development.

Industrial labour in India has exhibited certain well-known features which have affected the trade union organisation. In the first instance, most industrial workers have their roots in villages. Quite a large number of them have left their traditional occupations and have migrated to the cities in search of permanent or temporary employment. Most of them still retain their attachment to land and the periodic migration from the town to the village is a common characteristic of our industrial labour. Only in recent years, a new class of industrial labour without roots in agriculture is emerging in our towns and cities.

Secondly, industrial labour is largely uneducated. As a result, they do not understand the problems which their industries confront and the problems which they themselves are facing. This is also one of the factor for weak trade union organisation.

Thirdly, industrial labour in India is not united but is divided and sub-divided on the basis of region, religion, language and caste. It is only in recent years that some of these differences are disappearing gradually and some degree of unity on the basis of economic consideration is taking place.

Finally, Indian workers do not remain in the same job for considerable amount of time. There is high labour turnover. Absenteeism, indiscipline etc. are quite common. This may be because the workers were originally from the rural areas where people were comparatively free; or it may be because of their lack of education and love of leisure.

7.3 Sources of Labour :- The labour force in India is rapidly increasing due to high rate of population growth. The data available from the 939 employment exchanges in the country indicates that as on September 2002, the number of job seekers registered with the employment exchanges, (all of whom are not necessarily unemployed), was of the order 4.16 crore out of which, approximately 70 per cent are educated (10th standard and above). The number of women job seekers registered was of the order of 1.08 crore (26 per cent of the total job seekers).

In India not only one of the most challenging problem is to provide employment to extra labour force but also to reduce the backlog of accumulated unemployment prevailing from the previous time. The rate of growth of the entire employment in organised and unorganised sector reduced from 2.75 percent in 1972-78 to 2.43 percent in 1987-94. But this ratio further reduced to 0.98 percent in 1993-2000. In the organised sector the rate of growth of employment has been as under :

Rate of Growth of Employment in Organised Sector

Year	Public Sector	Private Sector	Total Adjusted
1991	1.52	1.24	1.44
1992	0.80	2.21	1.21
1993	0.60	0.06	0.44
1994	0.62	1.01	0.73
1995	0.11	1.63	0.55
1996	-0.19	5.62	1.51
1997	0.67	2.04	1.09
1998	-0.09	1.72	0.46
1999	-0.02	-0.57	-0.19
2000	-0.68	0.97	-0.17
2001	-0.90	0.1	-0.60

The following table indicates the past and present macro-scenario on employment and unemployment :

Past and present macro-scenario on employment and unemployment

(CDS Basis)

(Million)

Growth per annum

All India	1983	1993-94	1999-2000	1983 to 1993-94	1993-94 to 1999-2000
Population	718.20	894.01	1003.97	2.00	1.95
Labour Force	261.33	335.97	363.33	2.43	1.31
Workforce	239.57	315.84	336.75	2.70	1.07
Unemployment rate (%)	(8.30)	(5.99)	(7.32)		
No. of unemployed	21.76	20.13	26.58	-0.08	4.74
Rural					
Population	546.61	658.83	727.50	1.79	1.67
Labour Force	204.18	255.38	270.39	2.15	0.96
Workforce	187.92	241.04	250.89	2.40	0.67
Unemployment rate (%)	(7.96)	(5.61)	(7.21)		
No. of unemployed	16.26	14.34	19.50	-1.19	5.26
Urban					
Population	171.59	234.98	276.47	3.04	2.74
Labour Force	57.15	80.60	92.95	3.33	2.40
Workforce	51.64	74.80	85.84	3.59	2.32
Unemployment rate (%)	(9.64)	(7.19)	(7.65)		
No. of unemployed	5.51	5.80	7.11	0.49	3.45

Source : Planning Commission

In India the highest labour force is employed in agriculture sector. The table given below indicates the sectoral employment growth in India.

Sectoral Employment Growth (CDS basis)

Sector	Employment (in million)				Annual growth (%)			
Sector	1983	1987-88	1993-94	1999-2000	1983 to 1987-88	1987-88 to 93-94	1983 to 93-94	93-94 to 99-2000
Agriculture	151.35	163.82	190.72	190.94	1.77	2.57	2.23	0.02
Industry								
Mining & Quarrying	1.74	2.40	2.54	2.26	7.35	1.00	3.68	-1.91
Manufacturing	27.69	32.53	35.00	40.79	3.64	1.23	2.26	2.58
Electricity, gas & water supply	0.83	0.94	1.43	1.15	2.87	7.19	5.31	-3.55
Construction	7.17	11.98	11.02	14.95	12.08	-1.38	4.18	5.21
Services								
Trade, hotels & Restaurant	18.17	22.53	26.88	37.54	4.89	2.99	3.80	5.72
Transport, storage and communication	6.99	8.05	9.88	13.65	3.21	3.46	3.35	5.53
Financial, insurance, real estate and business services	2.10	2.59	3.37	4.62	4.72	4.50	4.60	5.40
Community, social, personal services	23.52	27.55	34.98	30.84	3.57	4.06	3.85	-2.08
All sector	239.57	272.39	315.84	336.75	2.89	2.50	2.67	1.07

When we analyse the sources of labour in district Jalaun we see that as per the Census of 2001 the total population of the district was 14,55,851 persons out of which 7,88,264 were male and 6,67,595 were female. The rural population was 11,64,688 which is 80 % of the total Population and urban population was 2,91,171 which is 20% of the total Population. As per Census of 2001, total educated persons were 8,09,988 out of this 5,26,744 male and 2,83,214 female. Thus in 2001, 66.14 % of the total population was educated. Male literacy ratio was 79.14 % while female literacy ratio was 50.66 %.

As per the data available the total population of the district in 1991 was 1219 thousand. The professional classification of the workers was as under :

S.N.	Profession	No. of workers (in thousand)	Percentage
1.	Agriculturist	199	55.12
2.	Agricultural labour	83	22.99
3.	Animal husbandry	3	00.83
4.	Mining	-	-
5.	Home industry	4	1.11
6.	Non-home industry	9	2.49
7.	Manufacturing	4	1.11
8.	Trade & commerce	21	5.82
9.	Transportation & communication	6	1.66
10.	Other workers	30	8.31
11.	Total main workers	361	100.00
12.	Marginal workers	48	-
13.	Total workers	409	-

Source : Statistical Diary, Jalaun

Educated unemployed persons are registered in Employment Office like other District. As per information received from Employment Office, the total number of

registered unemployed persons till 30.9.2001 were 18102. Out of this educated females were 1763, ITI trained were 991 and handicapped educated unemployed were 291. As per information received, from employment office in specific category the Schedule cast candidates were 5117, Backward class candidates were 5283, Schedule tribe were 03 and the minority section candidates were 938. In fact the number of educated unemployed are much more than what is registered in the Employment Office.

As Employment generation by the Government is very much low. The growth of vacancies in the Government offices is much less in comparison to the growth of population.

So it is clear that this man power may be motivated and trained for self employment, like establishing small, cottage and Agro-based industries.

Great opportunities for self employment must be found out so that the problem of unemployment may be solved. As the economy of the District is agrarian, large number of the working population is engaged in agriculture. The marginal productivity of the farmers is very low, some where it is zero and more crucially it is negative too. So the additional working population should be shifted from agriculture to agro—based industries. This step will increase the marginal productivity of the farmer as well as the industrial production of the District. Thus we can conclude that there is no scarce of sources of labour for the agro-based industries in the district Jalaun.

7.4 Working condition of labour :- In India, like other capitalist countries, the factory owners purchase the labour in exchange of wages. The minimum wage act in India was enacted in 1948 for keeping away the labourers from exploitation. Under this law the Central or State Government determines the minimum wage rate, wages for extra works, working hour and holiday period etc.

In factories, the factory act 1948, regulates the working conditions in the factory. As per factory act, there should be 48 working hours in a week. Employing child labour below to 14 years is illegal. The factory act makes the compulsory arrangement for light, cleaning etc. In addition to it there should also be attention towards the welfare and security of the workers. If the number of workers exceeds 250, the arrangement for

canteen should be made. All these arrangements are made for keeping away the workers from exploitation of mill owners.

The commission NCL (National Commission On Labour) recommends a general law relating to hours of work, leave and working conditions, at the work place. For ensuring safety at the work place and in different activities, one omnibus law may be enacted, providing for different rules and regulations on safety applicable to different activities.

Special mention has been made about women in this regard.

1- On the question of night work for women there need not be any restriction on this if the number of women workers in a shift in an establishment is not less than five, and if the management is able to provide satisfactory arrangements for their transport, safety and rest after or before shift hours.

2- Crèches should not be dependent on the number of women workers or the number of children. Every establishment employing 20 or more workers must run a crèche.

At the same time the commission is not in favour of any exemption being granted in respect of establishments in export promotion zones or special economic zones from labour laws.

Child Labour : The Commission has suggested a new law on the subject of child labour to substitute the provisions of the existing law on the benefit of children which would also aid the abolition of child labour.

The commission is shocked at the proviso to the definition of 'an arrangement of pledge of the labour of the child' in Children (pledging of labour) Act, 1933. this proviso would amount to approving child labour if reasonable wages are paid. The Commission is of the view that given this proviso, the entire purpose of the law is vitiated. Pledging of child labour can be made a crime under the criminal law of land, and would , therefore, recommend repeal of the law.

All of the above provisions indicate that proper arrangements have been made for restricting the exploitation of workers, but in fact these proviso looks to be only imaginary as in reality the minimum wages is too low to afford the basic requirements of the life. Thus the worker has to live always below poverty line because of the low

payment of wages. The factory honors do not follow the almost provisions of the factory act due to corrupt administration.

In the industry, specially in small and tiny industry child labour is employed. The main reason of the child labour in the industry of the district is the lack of education and the poorness of the worker's family. It is seen that the worker is very poor so he finds himself unable to educate his child and that's why he gets his child employed in a private shop or in an industry.

It is found that in the industry of the district the working place is dirty and very often the arrangements for proper light and air is insufficient.

The attention should be paid to improve the working conditions of the labour as it would improve the productivity of the labour as well as the productivity of the industry.

7.5 Labour Problems:- There are many labour problems, which the industries have to face and remove them. Actually the labour problems are harmful for both, to the management and to the labourers also.

Industrial Disputes In India:

There are conflicts between employers and workers. These conflicts take various forms of protest. From the side of the workers, the forms of protest are strikes, go-slow, gheraos, demonstrations etc. From the side of employers, these disputes takes the form of retrenchment, dismissals, lockouts etc. But the two most prominent forms of protest are strikes and lockouts. Whether a strike is a success or a failure, tension is created between the employers and employees. This results in loss of production and decline in national income.

Trends in industrial disputes and their nature:

1- Increasing trend of mandays lost :- there is a marked increase in the number of mandays lost due to lock-outs. In fact, this trend has started since 1971, particularly since 1976. this is a serious matter and should be probed in greater depth because this reverses the trend of mandays lost due to strikes and lock-outs during fifties and sixties. Obviously, there is a need to probe the factors leading to strikes and lock-outs.

The main factors responsible for the spreading of industrial unrest are; (a) the discredited trade union leaders who lost their image during emergency as champions of labour were out to build their image through strikes; (b) political instability in the country had its impact on the attitude of trade union leadership. The rival factions tried to eke out concessions from the governments which were either unstable or on their way out; (c) growing indiscipline among the workers on account of irresponsible trade union leadership; and (d) more frequent use of lock-outs by the employers to punish the workers emboldened by the New Economic Policy since 1984 in favour of private sector.

2- Rise in the share of lock-outs in mandays lost : During recent years, the share of lock-outs in total mandays lost has been on the increase. In 1951, only 26 per cent of the mandays lost was through lock-outs. By 1961, this had risen to 40 per cent and by 1971 it rose up to 47 per cent. The culmination of this trend was witnessed during the emergency. During 1976, 78 per cent of the man-days lost was through lock-outs. The authoritarian forces were able to ruthlessly muzzle the voice of the working class. The loss of man-days due to lockouts was the order of 67 percent in 1989. Since lock-outs is a form of punishment that the capitalists inflict on the workers.

Industrial Sickness Due To Labour Problem :

Industrial sickness is one of the major problems of Indian Industrial sector. Industrial sickness is also the resultant of labour problems as strikes, lockouts etc. Industrial sickness creates problem of wasting financial resources, puts a burden on banks and also enhances the public expenditure. According to information compiled by RBI from scheduled commercial banks, as on March 31, 2001, there were 2,52,947 sick/weak units, consisting of 2,49,630 units in the SSI sector and 3,317 units in the non-SSI sector. Among the 3317 units, the private sector, public sector and joint/ co-operative sector accounted for 2942 units, 225 units, and 106/14 units, respectively. The total number of sick SSI units has decreased from 3,04,235 units to 2,49,630 units but the number of sick /weak units in the non-SSI sector has increased from 3164 to 3317. the total bank credit blocked in sick units has increased from Rs. 23,656 crore (as on march 31, 2000), to Rs. 25,775 crore (as on march 31, 2001). The small scale sector has Rs.. 4506 crore (17.5 per

cent). Blocked in its units while the non-SSI sector has Rs.21210 crore (82.5 %). Bank credit blocked in the non-SSI sector in private, public and Joint/ co-operative units was Rs. 17705 crore, Rs 2986 crore, and Rs.537 crore/ Rs. 42 crore respectively.

In 1985, Tiwari Committee was appointed to probe in to the problems of industrial sickness. On the basis of recommendations given by the committee, government introduced Sick Industrial Companies Act.(SICA) and later on in January 1987, a statutory institution named Board for Industrial and Financial Reconstruction (BIFR) was setup. Primary responsibility for tackling problems of industrial sickness is vested in the Board for Industrial and Financial Reconstruction (BIFR). Since its inception in May 1987 till December 31, 2001, BIFR has received 5192 references including 262 central and state Public Sector undertakings under the Sick Industries Companies (Special Provisions) Act (SICA)1985.

Out of the references received, 3759 were registered under section 15 of SICA, while 804 references were dismissed, 550 rehabilitation schemes were sanctioned and 953 companies were recommended to be wound up. 296, companies have been declared 'no longer risk' and have been discharged from the purview of SICA, on their net worth turning positive, after the implementation of the scheme.

CHAPTER-VIII

PROBLEMS OF INDUSTRIES

CHAPTER- 8

PROBLEMS OF INDUSTRIES

8.1 Managerial Problems :- The managerial problem refers to those problems which are faced by the manager in the enterprise during the tenure of his office.

Actually for finding out the managerial problems which the agro-based industries, established in the district are facing; it is essential to know the management and it's basic principles.

Being a human Organisation is not a natural system in the sense that its functioning is not directed by any invisible force. It is an artificial creation and innovation of human ingenuity and hence has to be directed by specific organ, which may referred to as 'management' . Since an Organisation is a man made entity of co-operative group effort , some one has to take charge and co-ordinate its activities in a meaningful manner. An individual or a sub-group which takes charge of the Organisation and directs it's activities is it's management. Many authors defined management in different ways as :

Peter Drucker: Management is a function, a discipline, a task to be done, and managers practice this discipline, carry out the functions and discharge these tasks.

Henry Fayol : "To manage is to forecast and to plan, to organise to command, to co-ordinate and to control."

In relation to an organisation, management is the chief organ entrusted with the task of making it a purposeful and productive entity, by undertaking the task of bringing together and integrating the disorganized resources of manpower, money, materials and technology into a functioning whole. An organisation becomes a unified functioning system only when management systematically mobilises and utilises the diverse resources.

As the agro-based industries of the district are of the nature of tinny and cottage, the existence of the proper management does not exists. Basically in the industry the

managing person does not have the qualification required for conducting the industry properly.

In the industries of the district basically the following managerial problems were found to be existed :

Lack of Conceptual skills : the conceptual skill is the ability to think in abstract terms to form images and ideas, to visualize and understand the future and to discern relations and interactions among the elements of a system and changes therein. Conceptual skills are needed to identify and diagnose problems and opportunities, to understand the over-all organizational interests and needs and to relate them to its subsystems, to determine organizational and other derivative objectives, to plan and implement major changes in an integrated manner and so on. In the mostly industries of the district there is lack of conceptual skills in the management. It is a problem for the proper management of the industry as lack of this skill reduces the capability of the industry.

Lack of Analytical skills : this skill refers to abilities to proceed in a logical, step-by step and systematic manner, to examine the various aspects of specific issues and to understand complex characteristic of a phenomenon. It is also the ability to break down a problem into its components and to 'clinically' examine its dimensions. Analytical skills are needed for problem solving and decision making, to evaluate performance, and to manage complex situations. Lack of analytical skill in the management imposes extraordinary burden on the industry as and when any problem is not solved because of the non-ability of the management.

Lack of Administrative skills : this skill refers to centre around ability to act in a pragmatic manner to get things done by implementing decisions and plans, to mobilise and organise resources and efforts, to co-ordinate diverse activities and to regulate organizational events in an orderly manner. In the industries of the district, while in the survey it was found that in most of the cases the management is not efficient in administrative skill because of the lack of ability in the field of management. Actually this managerial problem is due to the lack of knowledge or to say non-expertise in managing the situations.

Lack of Behavioural or Inter-personal skills : These skills have to do with the ability to understand people and their problems, needs and feelings, to get along with them, to interact and communicate with them, to provide leadership, to inspire confidence, enthuse and motivate people, to unearth talents to get the best out of them, to develop them, to build effective team work, to provide counseling, to resolve conflict and so on.

Generally there seems the improper-interaction between the manager and the subordinates, so it leads to many misunderstanding which creates so many problems. A great problem of the agro-based industry, situated in the district is the lack of effective team work.

While in the survey of the industry it was found that the manager only directs the subordinates and keeps him self away from the work which is to be done. Actually the treatment of the manager should be based upon the basic principles of the management. Accordingly he should not only to direct but also to help the sub-ordinates, whenever they are in need.

Lack of Technical skills :- Technical skills relate to job knowledge and expertise, ability to apply methods and techniques to work setting, to provide technical guidance and instructions to subordinates.

Generally in the industry established in the district, it is felt that the management is not so trained in technical skills.

All the above managerial problems of the industries established in the district looks to be due to the small size of the enterprise. The nature of the industry is tinny or very small size so it looks not to be possible to employ the high qualified manager having the knowledge of the management. The management of the industry does not adequately possess even the basic principles of the management as Planning, Organisation, Coordinating, Directing, Controlling and Motivation.

8.2 Raw Material Problems :- The Agro-based industries are facing many problems. One of them is raw material problem.

As agro-based industries need the raw material which is related to agriculture sector, it means the industries are indirectly related to villages. Since in the villages the availability of adequate road transportation does not exist so for getting raw material the problem of location exists.

The climatic condition some times also suffers the proper availability of raw material. For example for Tomato sauce industry the availability of tomatoes is available in winter season in the district; but in the summer season tomatoes are not produced in the district and has to be dependent upon the imports from other district; although the Tomatoes are largely produced in Nagpur in summer season ; so it may be purchased from there.

One of the problems was also found related to raw material as the quality of the raw material is not so good in comparison to others ; it reduces the quality of the finished products.

When we made the investigation of the agro-based product as 'Allo Bhujia' The quality of the product was not found to be very qualitative. And as we know it very well, unless and until we improve the quality of the product it is very difficult to stay in the market for long time. So for keeping us stable in the field of the industry we must pay attention to improve the quality of the finished product for it we would have to pay attention towards using the good quality of raw material.

Another problem related to raw material is storage problem. As the agro-based industries of the district are started with low investment of capital . proper space for keeping the raw material is not available. However this storage problem vary from industry to industry depending upon the availability of resources.

8.3 Financial Problems :- The Agro-based industries of the district are also facing the problem of finance. Though the district is not developed so here the problem of capital formation and the availability of capital exists. Although the financial institutions are providing loans to these industries yet it leaves extra burden on the industry in the form of interest.

The industry is also facing the problem in raising loans from the banks due to the complexities in the procedure and also the industries are not getting the proper advantage of the government relaxations and schemes due to the ignorance and non-cooperation of the officers.

While in the survey it was also found that the industries are also in the grip of over capitalisation or undercapitalization. It is due to mis-management of finance by the managing department. This severe problem of the overcapitalization led to extra burden on the industry and undercapitalization led to industry to go in to the position of liquidation.

It is also the bad characteristics of the industry of the district that management keeps the finance idle. Whenever it is not in use it must be deposited in the bank so that it may earn some interest.

For developing any industry it is also essential to estimate the required running capital. Many industries were seen to be liquidated due to the non availability of running capital, although they possessed a large amount of capital in the mode of fixed capital.

Another financial problem of the industries extracted from the survey is the existence of the corruption internally and externally. Since the industries of the district are of the nature of tinny and small so they do not apply the formula internal check system and it leads to increase mis-appropriation of finance. Corruption was also found in the financial institutions as when the industry is in the requirement of loans the industry has to pay the big commission to the officers for getting the loans.

8.4 Administrative Problems :- The most severe administrative problem was observed the lack of knowledge of the administrative officers of the industry.

While in the survey, when the questions were put up about the problems of the industry, they found themselves helpless in answering. They were not competent in solving the labour problems, financial problems and were also not expert in personnel management.

Thus the suggestions were given to the owners as well as to administrative officers to improve the quality and understanding of the administrative officers so that the improvement of the industry may be made, because the administrative officers of any

industry are very important factor for the industry. They makes planning and get implemented.

The another administrative problem internally existed was the late execution of any planning. Actually talk was made with many persons who were interested in establishing the agro-based industry but their planning was not implemented. When the reason was investigated of late execution of the planning it was found that they were afraid of getting success in this field, also they were not competent in planning, arranging money and studying the market so they could not establish the industry.

The same above problem was also found in the established agro-based industry as the administrative officers were interested in expanding the activities but their planning was only on papers, not looking forward to implement the planning.

Non- cooperation of staff is very big head-ache for the administration. The labour of the industry is not skilled and often absent from the work, this lead to interruption in the production. Also the labour of the industry generally not prepared for over-time work even in the condition of getting the double wages for the over-time work.

The administration of the industry some times faces the problem of bureaucracy which imposes extra burden on the industry. For example the late completion of the files in government offices, commission system leading to corruption and non-cooperation of government officers with the administration of the industry also responsible for the slow development of the agro-based industries.

8.5 Technical and Qualitative Problems :- The industries of the district are not developed from the technical point of view. The working of the industries is mostly based upon the conventional methods.

When we analysed the technical knowledge of man, it was found that the working persons of the industries are not skilled and competent in their work. Actually unskilled labour and semi-skilled labour looked to be unable to work independently. The labour of the industry is also not stable as the labour is related to villages and often moves to village, leaving his work.

The machines of the Agro-based industries of the district are also not modern. The productivity of the machine per hour is not satisfactory. There is also lack of lab facility. the research work is not in practice because of the unavailability of the resources.

8.6 Other Problems :- The agro-based industries of the district Jalaun are also facing many other problems. Some of the investigated problems are as under :

1. Lack of quality product
2. Under utilization of available resources
3. Non-effective channels of distribution
4. Bad grip in market
5. Inefficient in competition with the product of large scale industry
6. Labour problem like instability of labour
7. lack of knowledge about modern technology
8. Lack of infrastructure development which creates many problems
9. Poor supply of electric
10. Non-implementation of Government's planning
11. Poor cooperation of Government officers

CHAPTER-IX

CONCLUSION

CHAPTER- 9

CONCLUSION

After making an intensive study on the topic “Role Of Agro Based Industries In the Development Of The Economy Of District Jalaun; A Study Of Post Liberalisation Period From 1991 to 2001”, we have just jump in to the following conclusions :

India is an underdeveloped economy. There is no doubt that the bulk of it's population live in condition of misery. There exist unutilized natural resources. Indian economy is primary producing. A very high proportion of working population is engaged in agriculture. In 1999, about 61% of the working population was engaged in agriculture and it's contribution to National Income was 28%.

Although from the occupational point of view the Indian economy is primary producing yet one can not easily escape the conclusion that agriculture continues to be a depressed industry as the productivity per person engaged in it is very low.

When we analyse the employment opportunities we see that in India labour is an abundant factor and consequently it is very difficult to provide gainful employment to the entire working population.

Moreover, in the agriculture sector of the Indian economy, a much larger number of labourers are engaged in production than are really needed. Accordingly the marginal productivity of labour in agriculture is often negligible; it may be zero or even may be negative, thus there exists 'disguised' or concealed unemployment in agriculture. Even if surplus population is siphoned off, the total out put from agriculture will not fall because those persons who were working below capacity begin to be utilised to the full. Disguised unemployment in rural areas is the result of heavy pressure of population on land and absence of alternative employment opportunities in our villages.

In India capital per head available is low and secondly the current rate of capital formation is also low. Gross capital formation in India is less than that of developed countries. In India the quality of human capital is poor. India suffers from mass illiteracy. Illiteracy retards growth. A minimum level of education is necessary to acquire skills as

also to comprehend social problems.

In India most modern techniques exists side by side with the most primitive in the same industry, but there is no gain saying the fact that the majority of the productive units and a major part of the output is produced with the help of techniques which can be described as inferior judged by modern scientific standards.

Since new techniques are expensive and require a considerable degree of skill for their application in production, the twin requirements for the absorption of new technology are the availability of capital and training of an adequate number of personnel. It is necessary to have a basic minimum level of education among the actual producers in order that the economy can absorb new technology.

The Indian economy suffers from this basic weakness. The low productivity per hectare in Indian agriculture and the low level of productivity per worker in agriculture and industry are largely a consequence of technological backwardness. In India the vast majority of farmers are too poor to buy even the essential inputs, such as improved seeds, fertilisers and insecticides, not to speak of affording the more expensive producers' goods like harvesters, tractors, sowing machines, etc.

Agriculture has got a prime role in Indian economy. Though the share of agriculture in national income has come down since the inception of planning era in the economy but still it has a substantial share in GDP. The contributory share of agriculture in Gross Domestic Product was 55.4% in 1950-51, 52% in 1960-61 and is at present reduced to nearly 25% only.

Agriculture sector, at present provides livelihood to about 64% of the labour force. Various important industries in India find their raw material from agriculture sector. Cotton , textile, jute sugar, vanaspati industries etc. find their raw material from agriculture. Allied agriculture activities like horticulture, agro-forestry, fisheries, milk dairy etc. are directly or indirectly dependent on agriculture. At the same time Handloom, spinning, oil milling, rice thrashing etc. are various small scale and cottage industries which are dependent on agriculture sector for their raw material.

India's foreign trade is deeply associated with agriculture sector. Value of agriculture exports to total exports of the country has been ranging between 15 to 20%. Besides, goods made with the raw material of agriculture sector also contributes about

20% in Indian exports. In other words, agriculture and its related goods contribute about 38% in total exports of the country.

India has attained self-sufficiency in almost all consumer goods. Growth of capital goods production has been specially impressive. An impressive industrial capacity has been achieved in mining and metallurgical industries, chemical and petrochemical industries, fertilizer production, capital goods industries including sophisticated equipment for steel mills, fertilizer plants, chemical plants, etc. light, medium and heavy engineering industries, power and transportation industry, construction industry, etc. Further, India can now sustain the future growth of vital sectors of the economy primarily through domestic efforts and only with marginal imports. Finally, the infrastructure including R & D capability, consultancy and design engineering services, project management services and innovative capacity to improve and adapt technologies have indeed shown an impressive record of progress.

When we analyse the agriculture, agro-based industries and allied agriculture activities in the context of foreign trade we see that India's share of the world trades in agriculture is only 1%. Its share in the world trade of agriculture products, except for the traditional items exported, has been low due to lack of export orientation in domestic production. Further as a policy, exports of items of mass consumption are only permitted in a manner, which does not compromise the food security of the country. The agriculture products exported from India include tea, coffee, raw cotton, rice, wheat, course grains, tobacco, fruit juices, cashew, sesame, Niger seed, oil meal extractions, sugar, flowers and horticulture products, fresh fruits and vegetables, processed fruits and juices, meat and meat preparations.

Opportunities in the field of medicinal herbs :

The opportunities that favour the utilisation and cultivation of medicinal herbs in India are summarized below :

- 1- Because of its vast bio-diversity and the potential for commercial exploitation of medicinal plants, India could become a leading supplier of herbal medicines to global markets.

2- A vast majority of the world population is currently finding themselves unable to afford the products of the western pharmaceutical industry, and they mainly have to depend on the use of traditional medicines, which have been derived from plants.

3- developing countries spend roughly forty to fifty percent of their health budget on drugs and as a strategy to reduce the financial burden on developing economies, the World Health Organisation (WHO) recommends, encourages and provides for the inclusion of herbal medicines in national health programmes. Such herbal medicines are easily available at affordable prices for the common man, they are time tested and considered safe than modern synthetic drugs. Of late, there has been a resurgence of interest in herbal medicines also in western European countries.

4- Introduction of medicinal plants in the cropping patterns of the farming communities especially in dry land and watershed areas could provide a strong thrust to the need for soil and water conservation and would also provide reasonable returns and indirectly help in ex-situ conservation of these to a large extent.

Potential

The following points highlight the potential of medicinal plant in India, the cultivation and processing of which could be a profitable business venture.

- India is bestowed with incredible plant resources and a rich bio-diversity, which can form starting points for the medicinal plants business sector.
- The varied agro-climatic conditions stretching from alpine / mild temperate to tropical types with abundant rains and sunshine, make India an ideal place for the luxuriant growth of flora fauna.
- India is a proud possessor of a rich medicinal heritage which encompasses various systems of medicine, namely, Ayurveda, Siddha, Unani and also the Tibetan system of

medicine, apart from thousands of tribal bodies of knowledge of traditional herbal medicines. It also has an invaluable treasure trove of various scriptures on diverse medical systems.

- We need to pay attention to medicinal plants on which :

- * Significant research needs in aromatic / medicinal plants,

- * Medicinal plants being imported

- * Plants which are used in the treatment of various diseases having properties such as : anti-cancerous, anti-protozoal, anti-diabetic, anti-inflammatory etc.

- There is very great demand for herbal products in cosmetic and health care products, several pharmaceuticals industries processing allopathic drugs are becoming aware of the emerging trend of herbal medicines and are trying to access this market. Such components are already releasing purely herbal-based drugs in the market. On account of this, it is evident that the future of medicinal plants industry is bright in India.

- In the developed countries, the market for total medicine is growing at a faster rate than that of pharmaceutical products. Some of the reasons for this are :

- * Realization that allopathic drugs have harmful side effects.

- * Allopathic medicines are said to be ineffective against many chronic diseases like cancer.

- * Herbal medicines are comparatively less expensive.

- * Western medicinal profession has begun to acknowledge the value of herbal medicines.

There has been a tremendous upsurge in the demand for phyto-pharmaceuticals, raw medicinal herbs and vegetable drugs of Indian origin in the western world. There is also an increase in the demand from the domestic market for plants / plant parts used for perfumery and those with insecticidal properties for traditional herbal drugs owing to the increased awareness of the ill effects of western medicine.

Weakness

There is no doubt that the medicinal plants based drug industry is progressing very fast, but at the same time facing a lot of problems.

In spite of the fact that the considerable research work has been done during the last thirty years, India has not made much headway in increasing its export potential and most of the drugs used in the traditional system are still obtained from wild sources. There is urgent need to identify our research and development efforts so as to produce their plants and their constituents in the country, which were still imported. There is a need also to develop research methods for the traditional systems which are still obtained from wild sources. There is urgent need to intensify our research and development efforts so as to produce these plants and their active constituents in the country, which are still being imported. There is a need also to develop research methods for the traditional systems of medicine, which has great potential in the developed countries of the world.

Some of the medicinal plants growing in the wild are becoming extinct on account of destructive collection techniques such as uprooting of the entire plant with its roots. It is also widely known that large-scale use of adulterants and other substitutes bring down the efficacy of the formulations.

Systematic cultivation of a few medicinal plants has been found to be a discouraging venture primarily due to its being uneconomical.

Some of the varieties of medicinal plants have a long gestation period before the plant begins to yield. For example : Ashoka, Neem, Bel, Nutmeg etc. post harvest-handling practices such as fumigation during storage results in the contamination of the raw materials and subsequent decreased effect of the finished preparation.

Limitations :

Although, we have enumerated the opportunities and potential of cultivation of medicinal plants in India, there are certain inherent qualities and constraints in the system today which seem to limit the medicinal plant industry as :

- * The most alarming problem the medicinal plant industry is facing today is the constant dwindling of natural resources due to the haphazard collection channels.
- * The rampant adulteration and substitution of the raw materials in the production of indigenous medicines might lead to bad name of the Indian systems of medicine.
- * Growing pressure of population and increasing urbanization has resulted in large-scale deforestation, resulting in the loss of natural plant resources.
- * In many cases since the important plant parts are the roots or the entire plant, this results in plant collectors engaging in the destructive collection / extractive methods resulting in many species becoming extinct or being listed as a threatened species.
- * Despite the fact that our forests are a major resource base for medicinal plants as many of them appear in the wild, the importance of this has not been totally recognized by the Government departments and negligible or no action is taken or planned as long term strategy for conservation of bio-diversity and support to communities which rely on this totally.
- * Unauthorized collection of minor forest produced by persons who are led by the increasing demand for medicinal plants has resulted in the deprivation of the rights of the communities engaged traditionally in this activity.
- * Highly volatile market prices of medicinal plants partly because of fluctuations in production and demand may render many of the crops uneconomical for cultivation.

Medicinal plants as an industry offers the most attractive entry opportunities. It also offers good potential by the way of absolute volumes, growth potential and export potential. Owing to the inherent agro-climatic condition of India and its vast natural resource potential including an emporium of medicinal herbs available in India, the cultivation and processing of medicinal herbs is definitely a worthy business opportunity. A judicious selection of the plant species depending on its export potential and cultivation requirements need to be made before venturing on its commercial production. With the increasing attention being paid to ecological and environmental issues globally, rationalistic and realistic approach needs to be chartered for successful and sustainable development of this growing industry.

It is obvious that with land resource getting limited, integrating medicinal and aromatic plants with a high value crop such as oil palm through suitable agro-forestry systems of planting, appears to be a viable and attractive option which should be seriously considered by the planting community. Under current scenario of limited land availability and the need to increase productivity and income, maximizing land use through agro-forestry systems of planting compared to the traditional monoculture planting, offers an alternative option for the planting of potentially high value crops such as the medicinal and aromatic plants. With the adoption of existing advanced agricultural plantation technologies in agro-forestry systems of planting and the planting properly implemented, establishment and planting success of the medicinal and aromatic plants under oil palm will be somewhat assured. In addition, by raising the awareness of the herbal industry on the commercial importance of medicinal products using raw materials from our tropical forest, the economic potential of these medicinal and aromatic plants will be increased. This will subsequently contribute to the development of herbal industries as well as medicinal plants research in this country.

Finally we see that the economy of the district Jalaun is agrarian. 79% of the total population of the district is dependent upon the agriculture. The marginal productivity of the labour is zero or sometimes it is negative too. In the district disguised unemployment exists. Thus there is a great necessity to develop the agro- based industries as these industries require low investment of capital and not too much skilled persons are required. In the district many agro-based industries are working properly as in Orai, Dal Mills, Oil Mills, Flour Mills, Spices and Bakery industries are in large quantity where as in Jalaun seed processing units are established. In Konch area there is one fish hatchery of 16 hectare managed by Fisheries Development Corporation and the farming of peppermint plants is also in practice in large scale. There is big production of peppermint oil in the district. Many big and small units for extracting peppermint oil are established and working properly. In Kalpi Tehsil there are many units of hand made paper. This; hand made paper is a special type of product. As per the information received there are nearly 42 units in which nearly 5000 persons are employed. This industry is basically labour- intensive industry but in recent years some units are also using machines for

quick and large production. In Madhoghar area there are some Oil Mills. Milk dairies are also working in unorganised way and there is also good production of Ghur in this area. The government and many NGOs are promoting the herbal plantation in the district as there is great opportunities in this field. Some industries based on such herbs and plant are also being established. Yet the full utilisation of the available resources of the district Jalaun has not been made.

There is very great opportunity in the field of the agro-based industries. All types of the industries like cottage and small scale industries may be developed in the district. This step would be helpful in solving the problem of unemployment and ultimately will increase the per capita income of the district and the national income.

We see that in the district agro-based industries are established with low investment of capital . it require larger number of labourers as these industries are labour intensive. In such industries too much skilled labourers are also not required. Agro-based industries in the district had made it possible to provide employment and development in the rural areas. Many labourers living below poverty line, are now getting employment in the agro-based industries. There are more and more opportunities of the employment generation in the district, in the field of agro-based industries.

In short the following factor should exist for the development of agro-based industries:

- Availability of raw material
- Availability of labourers
- Low investment of capital
- Cottage, Small and Medium size of industries possible

Thus we can conclude that the economy of the district is agrarian. The availability of raw material is easily possible which is helpful in promoting such industries as well as in removing the problem of unemployment.

The market for finished products of such agro-based industries is available in the district itself as well as in the neighbouring districts. Also the opportunities of the export of such products exist, but for it we would have to pay attention towards the quality and quantity of the product.

Concluding we find that in the operation area i.e. in the district Jalaun there are so many agro-based products which were found to be very appropriate to the above

conditions and thus the following industries have great opportunities to be established :

- Flour mill
- Bakery products industries like biscuits, bread etc.
- Pulses (dall mill)
- Processed Peanuts, Namkins etc.
- Fishing and Canning (finished product of fish)
- Floriculture
- Herbal Plantation and its final products
- Processed fruits and vegetable like tomato and chilly sauce and tomato soup
- Paper products like hand made paper and boxes
- Herbal cosmetic items
- Herbal medicines
- Vegetable products like processed vegetables and its products as Allu chips etc.

Main Factors Which Are Responsible For Non Creation Of Employment Even Though There Exist Education:

- 1 Excess of Population.
- 2 Corruption.
- 3 Wrong system of education.
- 4 Lack of technical education.
- 5 Lack of capital.
- 6 Non desire ness of investment.
- 7 Low creation of employment opportunities by the government.
- 8 Low creation of self-employment.
- 9 Lack of employment according to education.
- 10 Non industrialization of agriculture sector.
- 11 Non utilisation of resources.
- 12 Non implementation of projects.
- 13 Complexities in documentation.
- 14 Non utilization of mental creativity.

The assumed hypothesis are tested on facts and the conclusions which have been found out are as below –

The first hypothesis is that – Agro based industries have led to development of infrastructure and more and more employment in rural areas, we see that in rural areas agro- based industries have failed to develop the infrastructure facilities but have been successful in providing the rural employment. People are getting employment in the rural areas as well as in the towns yet these industries are under developed. District Jalaun exist great opportunities of development of agro-based industries.

The second hypothesis that – Agro based industries have generated a sustained growth of development. It looks very near to the fact, as there is a positive correlation between the employment generation and the economic development. Since agro based industries have provided employment in the district and also these industries have been helpful in increasing the per capita income thereby making it possible to reduce the poverty. Thus these industries have generated a sustained growth of development.

The third hypothesis is that — Agro based industries have made possible to keep away the problem of unemployment as well as poverty; has also been accepted as these industries have generated employment in this area and thus made it possible to reduce the problem of unemployment and poverty.

The fourth hypothesis that— Through Agro- based industries the development of the economy may be made is acceptable in it's original form. As the development of the agro based industries is one of the most important factor of the economic development. The economic development of countries, like India depends upon many indicators as education, employment, energy generation, export creation, technological development etc. The development of the agro based industries increase mostly all above mentioned indicators of development. The agro based industries generate employment in rural as well as in urban areas and the employment generation eliminate the problem of poverty. Through the development of agro based industries the export of the country increases. Since the economy of India and particularly of District Jalaun is agrarian, bulk of the population is related to villages and agriculture so there is no shortage of labour and other inputs for the agro based industries. This factor indicates that in this area the agro based industries may be more developed . Thus with the help of agro based industries the

development of the economy may be made possible.

The fifth hypothesis that— More opportunities of employment have been generated with low investment of capital in agro- based industries is true. Agro based industries are mostly labour intensive. In the district there is scarcity of capital but no shortage of labourers. Agro based industries are possible in cottage and small scale form which are labour intensive. Thus more opportunities of employment have been generated with low investment of capital in agro based industries in comparison to others.

We see that all the above mentioned hypothesis have been accepted except one “that the agro-based industries have led to development of infrastructure facilities”. The tested hypothesis reveal results that with the help of agro- based industries the development of the district is possible. At the same time the agro-based industries also reduce the problem of unemployment and poverty. Keeping in view the availability of physical and natural resources; the agro-based industries have great opportunities to be established in the district. Now we have to take steps towards establishing the agro-based industries.

CHAPTER-X

SUGGESTIONS FOR DEVELOPMENT

CHAPTER- 10

SUGGESTIONS FOR DEVELOPMENT:-

10.1 Suggestion for the development of agro-based industries:-

Suggestions for the development are divided in to two parts as (a) suggestions for the development of agriculture production and (b) suggestions for the development of agro-based industries.

(A) Suggestions for the development of agriculture production:

1- **Improved Seeds should be used** : The improved seeds have played an important role in agriculture productivity. Hybrid seeds should be used for increasing production.

2- **Balanced Fertilizers should be used** : Different types of fertilizers (i.e. Nitrogen, Phosphate and Potash- NPK) should be used in a balanced proportion to maintain the productivity of soil. For, India, the standard ratio for the use of various fertilizers has been assumed to be 4: 2: 1' but during 1999-2000, this ratio was 6.9 : 2.9 : 1 . For 2000-2001, the estimated ratio was 6.4 : 2.7 : 1 . It shows that consumption is biased in favour of nitrogenous fertilizer.

3- **Irrigation Arrangement** : The main sources of the irrigation in the district are canals. Nearly 70 percent of the area is irrigated by canals. The new system of irrigation as Drip irrigation should also be used. Under Sprinkler/ Drip Irrigation System water is sprinkled evenly on total agriculture ground through a pipe network cropped area. Empirical studies show that this system of drip irrigation saves 30% to 40 % water as compared to irrigation with traditional method, i.e. surface irrigation. This system of irrigation also ensures 20-25 % more productivity per hectare.

The Central Government has taken decision in Union Budget 1996-97 to bear 70% cost of establishing Drip Irrigation System as subsidy. The maximum ceiling of this

subsidy has been raised from Rs. 15,000 to Rs 25,000. A special provision of subsidy upto 90% of total cost has been made for marginal farmers, women, 'SC/ST' people.

4- Advanced Agriculture Equipments should be used : The agriculture equipments have great importance in increasing agriculture productivity. The agriculture equipments helps in saving the labour, time and money. There is an arrangement of providing loans subsidy to the farmers for purchasing the equipments by the Central Government. The proper arrangements should be made so that the full benefits of such schemes may be enjoyed by the needy farmers.

5- Soil Conservation And Reclamation : Although positive data are lacking, available tests show clearly that Indian soils have reached the lowest stage of deterioration. While heavy crops are grown year after year, very little is returned to the soil by way of manures. Apart from soil exhaustion and deterioration, there is also the problem of soil erosion. Soil erosion takes place when the surface soil is washed away through excessive rains and floods. Soil erosion occurs because of cutting of trees, removal of vegetation which exposes land to wind and rain, uncontrolled grazing and cultivation on hill slopes.

The remedies to soil erosion are : prevention of forest and afforestation, contour bonding, regulation of land use, etc.

6- The Farming Of Medicinal Plants Should Be Increased : As there are great opportunities in producing the herbal plants. These are used in medicines and cosmetic items etc. Thus the medicine and cosmetic industries are making big demand of these plants like Safed Moosely. Sahajan, Aloe Vera, Aswagandha, Goggol and Henna etc.

7- Proper Assistance should be increased : Assistance should be provided for raising small and large nurseries for production of good quality planting material, upgradation of technical knowledge of farmers through demonstration, training and publicity, rejuvenation of old orchards, area expansion, supply of mini kits for vegetables, improving productivity and training of farmers.

(B) Suggestion for the development of agro-based industries and to enhance exports :

- 1- Provision of soft loans for setting up of grading/ processing centres, auction platforms, ripening/ curing chambers and quality testing equipment.
- 2- providing financial assistance to exporters/ growers / cooperative societies for development of infrastructure facilities such as purchase of specialized transport nits, establishment of pre-cooling / cold storage facilities, integrated post harvest handling systems (pack houses).
- 3- Grant of financial assistance should be provided for improved packaging and strengthening of quality control.
- 4- Grant of Airfreight Subsidy should be provided for exports of selected fresh vegetable and fruits.
- 5- laboratories should be setup for testing of products to ensure quality ; technology transfer, process upgradation and product development.
- 6- Efforts should be made to introduce the advanced technology for the development of agro-based industries so that the entrepreneurs may come to know about the benefits of such technology and they may use such technology. For example in the district peppermint plantation is in good quantity and also many units of extracting peppermint oil are established, but no unit of making peppermint crystals and further processing is established . The main reason of this fact is that entrepreneurs and farmers are not aware of the technology of making peppermint crystals and further processing, though they are capable in all other aspects like money, management and other resources for establishing such units.

Thus the Government should introduce new technology in all fields so that the agro-based industries may be developed.

- 7- Seminars and training programmes should be organised : in the district the main reason of the under-development of agro-based industries is the lack of knowledge and motivation. Great efforts should be made by the Government and other NGOs to train the willing persons for establishing own agro-based industries.

8- Market should be reserved for the Cottage and Small scale industries: the Government should try to reserve markets for the products of cottage and small scale industries. As these industries have to face a big competition with the large scale industries, so the cottage and small scale industries find many problems in making their products stable in the market. At the same time cottage and small scale industries can not spend money on advertisement. Thus the Government should reserve the market for such industries.

9- The Government should start a programme on district level to train persons in the field of new patent rules and regulations.

As from 1 January 2005 new patent rules and regulations are applicable as per WTO agreements. In India as well as in the district there are many medicines and other things which are the invention of the India, but due to lack of knowledge and complexities these products and medicines frequently get patented by the other countries. A big example before us is the patent of Neem and Basmati Rice. So for solving the problem the Government should promote to make the persons trained in the field of patent (TRIPS) so that our invented products and medicines mat not be patented by the other countries except ourselves.

10- For developing the agro-based industries the Government should give relaxations in Sales Tax , Income Tax and in Excise so that these industries may be developed.

11- Soft loans to agro-based industries by the banks and other financial institutions is the most important factor in the development of agro- based industries, so the loans to these industries should be provided at a minimum rate of interest and also the requirement of the collateral securities should be minimized.

10.2 Model Of Development Representing the Whole Picture of Development Of The District Jalaun :

Basically, economic development implies the process of securing levels of productivity in all sectors of economy and this in turn, is a function of the level of technology. For obtaining a higher level of technology, the economy is required to forge the physical apparatus in the form of machines, equipments, tools and instruments of production on the one hand and on the other, to train the labour force of the country to make use of the physical apparatus thus created. In a nutshell, economic development is a process of stepping up the rate of capital formation. But the capital though necessary, is not a sufficient condition of economic development ; which depends on such non-economic factors and efficient governance. Economic development thus depends upon the both economic and non-economic factors.

India is an underdeveloped though a developing economy. Bulk of the population lives in conditions of misery. Poverty is not only acute but also chronic. At the same time, there exists unutilized natural resources. The co-existence of the vicious circle of poverty with the vicious circle of affluence perpetuates misery and foils all attempts at removal of poverty. It is essential to understand and make efforts for making the major issues of the development in our favour.

There exists some major issues of development in India as :

- 1- Low per capita income and low rate of economic growth.
- 2- High proportion of people below the poverty line.
- 3- Low level of productive efficiency due to inadequate nutrition and malnutrition.
- 4- Imbalance between population size, resources and capital.
- 5- problem of unemployment.
- 6- Instability of out put of agriculture and related sectors.
- 7- Imbalance between heavy industry and wage goods.
- 8- Imbalance in distribution and growing inequalities.

Thus we have to find out how the sustain development of the country may be made. There are many challenges in making the above issues of development in our favour so that the economy may be made developed. In other words :

- We have to increase the per capita income and rate of economic growth.
- We have to remove the mass poverty, as rapid reduction and eventually the elimination of poverty is, therefore, the most important issue of development.

There is clear need for an integrated policy with regard to prices, production and distribution of various food grains coupled with a programme for raising the output of such non-cereals as milk products, poultry, fish, meat, pulses, vegetables and fruits. The highest priority has, however , to be given to raising the output of pulses without necessarily diverting the land from cereal production.

A rising population imposes greater economic burdens and consequently, society has to make a much greater effort to initiate the process of growth. Moreover, with a rising population, per capita availability of land and such other resources fixed in supply, declines. Consequently, society has to make greater efforts to eke out more output per unit of land. Similarly, a significant proportion of capital formation is utilized to provide basic facilities to the additional population at the present level of living. Obviously checking the fast growth of population has a close relationship with economic development.

India is to eliminate unemployment and provide gainful employment to millions of people. The employment strategy of planned development will have to be directed (a) to adopt an employment- intensive sectoral planning, (b) to regulate technological change to protect and enhance employment and (c) promote area planning for full employment. The focus should be to expand employment through labour-absorbing technologies.

The expansion of infrastructure and social services i.e. road construction, rural electrification, water supply, rural schools and community health schemes, besides, irrigation, power and housing programmes will help to generate massive employment through expansion in construction activity and their secondary and tertiary effects in raising agricultural productivity and income of the poor.

We have also to devise a strategy of agricultural development which can promise a steady growth of agricultural output.

For reducing the imbalance between heavy industry and wage goods, we would have to consider two essential things, firstly, the supply of wage goods should grow at a faster rate than that of non-wage goods; and secondly, the price of wage goods should be stabilised.

Now that the economy has been able to build a reasonable industrial base, it is imperative that the imbalance between the heavy industry and wage goods sector be corrected by shifting investment policies in favour of wage goods. This not to say that the country has reached the goal of self-reliance in heavy industry, but to emphasise that simultaneous development of heavy industry and wage goods sector can bring about balanced development of the economy. This path of growth will help to improve the level of living of the masses.

A major issue of the development is to reduce imbalance in distribution and growing inequalities. thus we have to assure continued growth with justice through better distribution of national wealth produced in the country.

DEVELOPMENT MODEL OF THE DISTRICT JALAUN

To find out the causes of development it is essential to analyse the factors which are responsible for the development of a country. However the development of a country as well as the development of the district depends upon many factors. As there are four pillars of the bureaucracy, similarly four pillars of the development of the district (as well as the development of the entire economy) are invented. The entire development of the economy is deeply associated with these four factors of the development. We have determined the name of the invented model of development as “E- 4 Development Model”. The all four factors of the development are not only essential but also vital for the economic development in the present economic scenario. There are as below :

- 1 Education
- 2 Employment
- 3 Energy generation
- 4 Export creation

Education :- When we analyse the required elements of the development we see that the education is the most important element of the development. A Nation can never make the development unless the citizens of that country are educated. The Education plays an important role in the formation of the nation, similarly as the blood plays role in the body. Today we are in the need of education which may provide the opportunities of employment and also make the persons capable of establishing self businesses and industries. Since now a days great attention is being paid towards promoting education. The technical and vocational educational should be provided so that the youth may find himself appropriate to the challenging nature of the jobs.

Employment :- Although efforts are being made towards increasing the level of employment yet the required level of employment has not been achieved. In fact the number of educated unemployed persons are much more than what is registered in the Employment Office. Thus the unemployed and unutilized man power may be motivated and trained for self employment, like establishing small, cottage and Agro-based industries.

As the employment generation by the Government is very much low. The growth of vacancies in the Government offices is much less than the growth of population. Self employment generation must be promoted so that the problem of unemployment may be solved. As the economy of the District is agrarian, large number of the working population is engaged in agriculture. The marginal productivity of the farmers is very low, some where it is zero and more crucially it is negative too. So the additional working population should be shifted from agriculture to agro—based industries. This step will increase the marginal productivity of the farmer as well as the industrial production of the District.

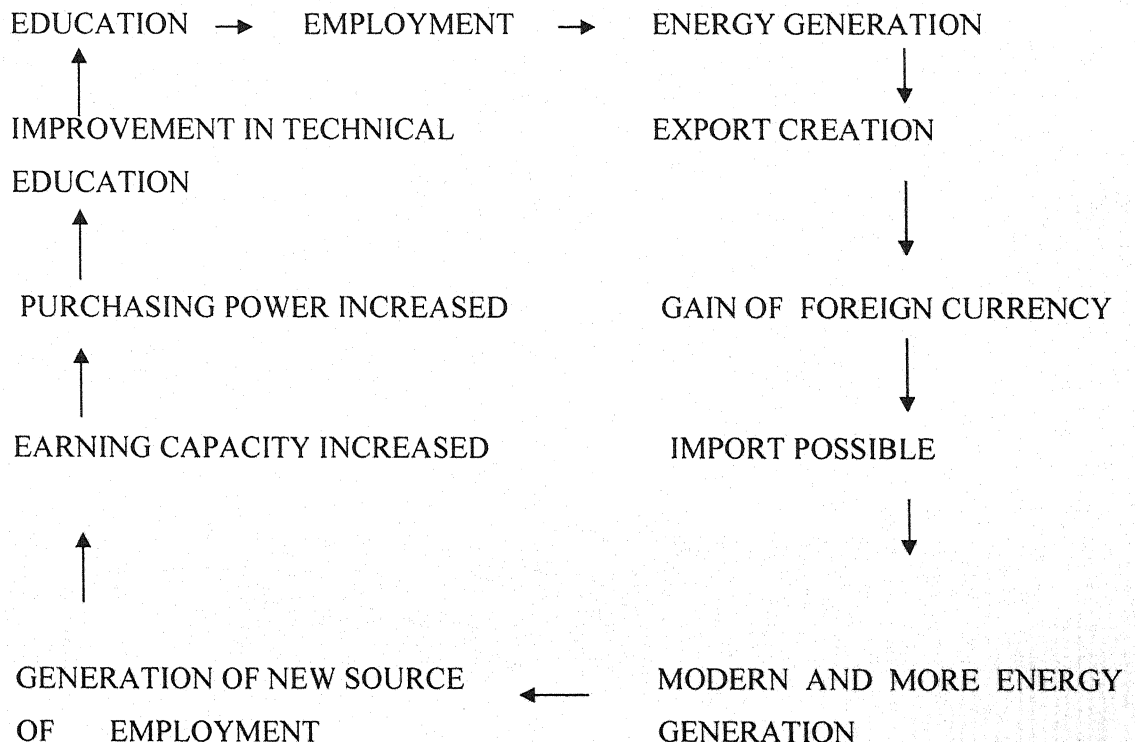
Energy generation :- Here the energy indicates the construction of roads, proper supply of electric, good transportation continuous and clean water supply etc. In short the infrastructure development leads to the development of the entire economy. The object-oriented policy of credit supply is also a part of the energy generation as the proper availability of the money leads to the more capital investment in the economy and it leads to further generation of the employment. When we compare the Indian economy with the

other developed economies we see that in the developed countries there exists more infrastructural development than to India. Thus for the sustain development of the economy the energy generation (infrastructural development) is not only essential but also vital.

Export Creation :- Exports of any country collects foreign currencies for that country. Through exports product specialization is also possible and the comparative cost benefits are also acquired. When we get foreign currency we utilise it for making imports of that goods which are not available in the country. Modern and advanced technologies are also imported which accelerated the industrial development. There are many benefits of the exports. Thus if we want to make our economy developed we would have to pay attention towards promoting the exports and many steps should taken to enhance the export oriented products and the exports of the country.

CIRCULAR FLOW OF THE DEVELOPMENT OF THE ECONOMY

(E- 4 DEVELOPMENT MODEL)



The all four factors of the development as Education, Employment, Energy Generation and Export Creation have the same meaning as they have in itself in addition to the following :

Education :- Professional, Vocational and Technical education etc.

Employment :- Self establishment of industries including agro-based industries, Ayurvedic industries and the industries based on the herbs and plants etc.

Energy Generation :- Proper transportation, Electric, Pure water, Pollution free environment, Roads facilities and infrastructure development etc.

Export Creation :- Export of both conventional and modern items as Technology, skills, medicines, agricultural products, herbal and plants based products etc.

SUMMARY

OF THE THESIS

SUMMARY OF THE THESIS

INTRODUCTION :-

Preface

Agriculture is an important means of livelihood in developing countries. The most important feature of developing countries has been the dependency of economy on agriculture. For the economic development of the country, the development of agriculture is not only essential but also vital.

Industrialisation is a source of achieving the proper economic growth. In developing countries the industrialisation has been dependent on agriculture. Agriculture is not only the base of supplying raw material for industries but also provides a big market for the finished product of the industry.

In India the vast majority of farmers are too poor to buy even the essential inputs, such as improved seeds, fertilisers and insecticides. Not to speak of affording the more expensive producer's goods like harvesters, tractors, sowing machines, etc. In manufacture also the vast majority of enterprises in India are run either on an individual or on a partnership basis; and it is beyond the means of enterprises to employ modern and more productive techniques.

One of the salient features of Indian economy is dominance of agriculture and heavy population pressure on agriculture. Agriculture sector today provides livelihood to about 64% of the labour force, contributes nearly 26% of Gross Domestic Product (GDP) and accounted for 18.1% (1999-2000) and 14.6% (2000-01) share of total value of country's export.

Another feature of the economy is lack of the industrialisation. India lacks in large industrialisation based on modern and advanced technology, which fails to accelerate the pace of development in the economy. Average annual growth rate of industrial sector (including mining, manufacturing and power generation) was 8.5% in the seventh plan against the target of 8.7% per annum. This rate was only 3.5% per annum during the sixth plan. During 8th plan, the annual average growth rate of industrial sector was 8.1% against the target of 7.6% per annum. During the 9th plan the annual growth rate of industrial sector in various year has been as under-

Year-	1997-98	98-99	99-2000	2000-01	2001-02
Rate-	6.7	4.1	6.7	5.0	2.3

While for getting the growth rate of 8% in the 10th plan, 10% growth rate of industrial sector is required.

On a very large scale the economic development of the country depends upon the development of Agriculture-based industries. Various important industries in India find their raw material from agriculture sector. Cotton, Jute, Textile, Sugar and Vanaspati industries etc. are directly dependent on agriculture. Handloom, Spinning, Oil milling, Rice thrashing, Flour mill etc. are various small scale and cottage industries which are dependent on agriculture sector for their raw material. This highlights the importance of agriculture in industrial development of the Nation.

Development of agriculture based industries also helps in removing the problem of unemployment, poverty that ultimately helps in achieving the economic growth.

U.P. is the biggest state of India in population. The population of the state is 16.60 crore out of which 13.15 crore or near about 79% of the population live in villages. Their main occupation is agriculture. Agro-based industries are also being adopted as livelihood. Near about 8 lack people are getting employment from agro-based industries. Main crops of U.P. are Paddy, Wheat, Pea, Pulses, Phaseolies mungo, Pigeon pea, Maize, Millet, Lentil, Kindney-bean, Sugar cane etc. Sugar mill, Jute, Textile, Rice and Dall mill have been developed in the state.

Economic development of the state is not equal. Regional disparities have grown up. Keeping in mind that for making the economy developed, it is quite essential to develop the agro-based industries. Such industries are facing so many problems resulting low yield and poor quality of product in comparison to other countries. So if we want to keep the exports of the country at a very progressing stage, we would have to pay attention to promote and develop the agro-based industries which would ultimately enhance the productivity and the exports of the country and would helpful in making the balance of payment of the country favourable.

Agro-based industries also help in removing so many problems of the country. As these industries enhance the productivity of the country which ultimately increase the per capita income as well as the national income.

District Jalaun is situated on the southwest side of the state. The economy of the district Jalaun is still agro-based. Besides producing the foodgrains, commercial and plantation crops are also produced. Due to this the availability of raw material for industries is possible.

As it is known from the dates that 79% of the total population of the district is dependent upon the agriculture. The marginal productivity of the labour is zero or sometimes it is negative too. Thus in the district disguised unemployment exists. Thus for reducing the dependency of labour on agriculture, it is essential to develop the industries, so that the excess labour may be shifted from agriculture to industry. Now a question arises that what types of industries should be developed keeping in view the available resources and the skills of the labourers.

The object of the present research work is also to find out the opportunities of the establishment of the industries in the district, keeping in view the available resources in the district.

As agro-based industries need to be started with low investment of capital and also the raw material is available easily and too skilled labourers are also not required so there exists the great opportunities of the establishment of agro-based industries. It includes the floriculture. Horticulture and producing of medical plants and fishing and allied agricultural activities.

The present research work is also about the role of agro-based industries in the development of district Jalaun. In this work the agro-based industries of district Jalaun are analysed and also investigation has been made about the opportunities of the establishment of agro-based industries. Great efforts have been made to find out all ins and outs of the agro-based industries which are established or may be established in the district .

CHAPTER PLAN:-

Chapter—1

The opening chapter is the introductory chapter as this chapter indicates the basics of the Indian economy and the Indian agriculture and industry. Review of the literature is included in this chapter as the review represents the whole picture of entire research

work. The objects for which the research work is being made are included in this chapter. Finally the methodology i.e. indication of the action of work or to say the methods from where the primary and secondary datas have been collected are included.

Chapter—2

This chapter is about the development of the country, comprising agricultural and industrial development. As it is very essential to know about the economic characteristics of the country because the present research work is about the development of the economy of the district and the entire development of the country depends upon the individual development of the districts, so the salient features of Indian economy are included in this chapter. A big factor of the development of the country is the intervention of the government through various policies and plans, thus for solving the problems of poverty and unemployment; various programmes were started by the government, so the plans made by the government for solving the problem of unemployment and poverty; at a glance have been included in this chapter.

Chapter—3

The third chapter is about the area of operation i.e. about the district Jalaun. The geographical situation, economic activities, the available resources of the district and the opportunities that are existed in the district for the industrial development especially the development of agro-based industries are included in this chapter. The Performa of agriculture economy and the industrial situation of the district and various other informations are the contents of this chapter.

Chapter—4

In the fourth chapter the detailed study of the various agro-based products has been made. For establishing any agro-based industry it is quite essential to know all the inns and out of the product as well as about that industry. Great efforts have been made for finding out the various informations about the some agro-based products. Sample units of agro-based industries as Bread Plant, Floriculture and Refined Oil have been taken for the purpose of Analysing these industries. In the analyses the introductory part

of the product, raw material used, manufacturing process and from the accounting point of view; the estimated cost of product have been included. An important feature of the success of any industry is the availability of proper market, where the product is going to be sold out. Thus keeping in mind this factor the intensive market survey has been made in the field.

Chapter—5

The fifth chapter is about the agro-based industries established in the district Jalaun. Sample units using the statistical technique as stratified random sampling technique have been taken for the analysis of the industry. Also the form of employment and performance of production is stated. This chapter also includes the questionnaires which has been used while in the practical field work. The first questionnaire has been presented before the management and the administrative officers of the industry for knowing the ins and out of the industry. The second questionnaire has been helpful in finding out the various aspects of various government institutions and societies which are engaged in promoting agricultural and industrial sector.

Chapter—6

The finance in any industry plays as an important role as such as the blood plays in the body. Proper availability of the finance is the most essential factor for properly running any industry. Thus in the sixth chapter the sources of capital are analysed for both agriculture as well as for industry. For avoiding from the over capitalisation and under capitalisation, the finance should be maintained properly i.e. the industry should have the loan as required ; that's may be short term, medium term or long term finance, so keeping this point; the forms of the capital are analysed in this chapter.

Chapter—7

In the seventh chapter the employment opportunities existed are stated. Different types of industries require the different types of labour. Some industry require the skilled labour at the same time other type of the industry may be run only with the help of unskilled labour. Thus in the chapter the nature of labour required for the agrò-based

industries is discussed. The productivity of the labour also depends upon the condition in which the labour is working. In the other words the working conditions of the labour affect on the productivity of the labour. In the chapter the working conditions of the labour are discussed. Labour problems are also mentioned in this chapter.

Chapter—8

The eighth chapter deals with the problems of the industries. In reality no industry is free from the various types of problems. Some industry faces the problem of management on the other side another may face the problem of raw material or finance. Thus keeping the industry free from the various problems it is quite important to manage all the aspects of the industry. No problem should be underestimated and should be tackled properly. Thus in the chapter the various problems of the industry are discussed and suggestion to solve them on practical basis are mentioned. These problems are related to the industries which were visited while in the field work and suggestions for solving them are also dependent upon the facts.

Chapter—9

The chapter nine is the result of the research work as in it the conclusions are mentioned. Various aspects which were investigated and the various opportunities which have been found to be existed in the district for the development of agro-based industries as well as the economic development of the district are mentioned.

Chapter—10

The tenth chapter consists the suggestions for the development of agro-based industries. Various steps should be taken by the government as well as by the individuals for promoting the agro-based industries. Also the development model representing the whole picture of the development of the district Jalaun is presented. The formula made for the development of the district Jalaun may also be adopted as the growth model of the development of the country. Thus in this chapter the growth model is presented.

OBJECTS OF THE STUDY :-

Objects of the study are as follows:-

- 1- To study the various Agro-based Industries of the district established after 1991.
- 2- To analyse the factors responsible for development of the Industries.
- 3- To find that what further steps should be taken by the government to improve the economy of the district.
- 4- To find how the Agro-based Industries could made it possible to develop the economy of the district.
- 5- To find what opportunities exist in the district for the development of the industries.
- 6- To present the Model of the development of the district.

METHODOLOGY :-

The present research work is based upon primary and secondary sources. Primary datas have been collected specially from the Industries Office. The primary datas have also been collected through personal interview and discussion with management and administrative officers of various agro-based industries. Samples have been drawn by using stratified random sampling technique.

The secondary datas have been collected from Government publications, research papers & other document related to agro based industries and rural development. These datas are analysed systematically using statistical tool/ techniques with the help of computer. Suitable software are used for analyzing these datas. The graphical illustration are given to illustrate the various aspects.

CONCLUSION

After making an intensive study on the topic **“Role Of Agro Based Industries In the Development Of The Economy Of District Jalaun; A Study Of Post Liberalisation Period From 1991 to 2001”**, we have just jump in to the following conclusions :

India is an underdeveloped economy. There is no doubt that the bulk of it's

population live in condition of misery. There exist unutilized natural resources. Indian economy is primary producing. A very high proportion of working population is engaged in agriculture. In 1999, about 61% of the working population was engaged in agriculture and its contribution to National Income was 28%.

Although from the occupational point of view the Indian economy is primary producing yet one can not easily escape the conclusion that agriculture continues to be a depressed industry as the productivity per person engaged in it is very low.

When we analyse the employment opportunities we see that in India labour is an abundant factor and consequently it is very difficult to provide gainful employment to the entire working population.

Moreover, in the agriculture sector of the Indian economy, a much larger number of labourers are engaged in production than are really needed. Accordingly the marginal productivity of labour in agriculture is often negligible; it may be zero or even may be negative, thus there exists 'disguised' or concealed unemployment in agriculture. Even if surplus population is siphoned off, the total output from agriculture will not fall because those persons who were working below capacity begin to be utilised to the full. Disguised unemployment in rural areas is the result of heavy pressure of population on land and absence of alternative employment opportunities in our villages.

In India capital per head available is low and secondly the current rate of capital formation is also low. Gross capital formation in India is less than that of developed countries. In India the quality of human capital is poor. India suffers from mass illiteracy. Illiteracy retards growth. A minimum level of education is necessary to acquire skills as also to comprehend social problems.

In India most modern techniques exist side by side with the most primitive in the same industry, but there is no gain saying the fact that the majority of the productive units and a major part of the output is produced with the help of techniques which can be described as inferior judged by modern scientific standards.

Since new techniques are expensive and require a considerable degree of skill for their application in production, the twin requirements for the absorption of new technology are the availability of capital and training of an adequate number of personnel. It is necessary to have a basic minimum level of education among the actual

producers in order that the economy can absorb new technology.

The Indian economy suffers from this basic weakness. The low productivity per hectare in Indian agriculture and the low level of productivity per worker in agriculture and industry are largely a consequence of technological backwardness. In India the vast majority of farmers are too poor to buy even the essential inputs, such as improved seeds, fertilisers and insecticides, not to speak of affording the more expensive producers' goods like harvesters, tractors, sowing machines, etc.

Agriculture has got a prime role in Indian economy. Though the share of agriculture in national income has come down since the inception of planning era in the economy but still it has a substantial share in GDP. The contributory share of agriculture in Gross Domestic Product was 55.4% in 1950-51, 52% in 1960-61 and is at present reduced to nearly 25% only.

Agriculture sector, at present provides livelihood to about 64% of the labour force. Various important industries in India find their raw material from agriculture sector. Cotton, textile, jute sugar, vanaspati industries etc. find their raw material from agriculture. Allied agriculture activities like horticulture, agro-forestry, fisheries, milk dairy etc. are directly or indirectly dependent on agriculture. At the same time Handloom, spinning, oil milling, rice thrashing etc. are various small scale and cottage industries which are dependent on agriculture sector for their raw material.

India's foreign trade is deeply associated with agriculture sector. Value of agriculture exports to total exports of the country has been ranging between 15 to 20%. Besides, goods made with the raw material of agriculture sector also contributes about 20% in Indian exports. In other words, agriculture and its related goods contribute about 38% in total exports of the country.

India has attained self-sufficiency in almost all consumer goods. Growth of capital goods production has been specially impressive. An impressive industrial capacity has been achieved in mining and metallurgical industries, chemical and petrochemical industries, fertilizer production, capital goods industries including sophisticated equipment for steel mills, fertilizer plants, chemical plants, etc. light, medium and heavy engineering industries, power and transportation industry, construction industry, etc. Further, India can now sustain the future growth of vital sectors of the economy primarily

through domestic efforts and only with marginal imports. Finally, the infrastructure including R & D capability, consultancy and design engineering services, project management services and innovative capacity to improve and adapt technologies have indeed shown an impressive record of progress.

When we analyse the agriculture, agro-based industries and allied agriculture activities in the context of foreign trade we see that India's share of the world trades in agriculture is only 1%. Its share in the world trade of agriculture products, except for the traditional items exported, has been low due to lack of export orientation in domestic production. Further as a policy, exports of items of mass consumption are only permitted in a manner, which does not compromise the food security of the country. The agriculture products exported from India include tea, coffee, raw cotton, rice, wheat, coarse grains, tobacco, fruit juices, cashew, sesame, Niger seed, oil meal extractions, sugar, flowers and horticulture products, fresh fruits and vegetables, processed fruits and juices, meat and meat preparations.

Medicinal plants as an industry offers the most attractive entry opportunities. It also offers good potential by the way of absolute volumes, growth potential and export potential. Owing to the inherent agro-climatic condition of India and its vast natural resource potential including an emporium of medicinal herbs available in India, the cultivation and processing of medicinal herbs is definitely a worthy business opportunity. A judicious selection of the plant species depending on its export potential and cultivation requirements need to be made before venturing on its commercial production. With the increasing attention being paid to ecological and environmental issues globally, rationalistic and realistic approach needs to be chartered for successful and sustainable development of this growing industry.

It is obvious that with land resource getting limited, integrating medicinal and aromatic plants with a high value crop such as oil palm through suitable agro-forestry systems of planting, appears to be a viable and attractive option which should be seriously considered by the planting community. Under current scenario of limited land availability and the need to increase productivity and income, maximizing land use through agro-forestry systems of planting compared to the traditional monoculture planting, offers an alternative option for the planting of potentially high value crops such

as the medicinal and aromatic plants. With the adoption of existing advanced agricultural plantation technologies in agro-forestry systems of planting and the planting properly implemented, establishment and planting success of the medicinal and aromatic plants under oil palm will be somewhat assured. In addition, by raising the awareness of the herbal industry on the commercial importance of medicinal products using raw materials from our tropical forest, the economic potential of these medicinal and aromatic plants will be increased. This will subsequently contribute to the development of herbal industries as well as medicinal plants research in this country.

Finally we see that the economy of the district Jalaun is agrarian. 79% of the total population of the district is dependent upon the agriculture. The marginal productivity of the labour is zero or sometimes it is negative too. In the district disguised unemployment exists. Thus there is a great necessity to develop the agro- based industries as these industries require low investment of capital and not too much skilled persons are required. In the district many agro-based industries are working properly as in Orai, Dal Mills, Oil Mills, Flour Mills, Spices and Bakery industries are in large quantity where as in Jalaun seed processing units are established. In Konch area there is one fish hatchery of 16 hectare managed by Fisheries Development Corporation and the farming of peppermint plants is also in practice in large scale. There is big production of peppermint oil in the district. Many big and small units for extracting peppermint oil are established and working properly. In Kalpi Tehsil there are many units of hand made paper. This; hand made paper is a special type of product. As per the information received there are nearly 42 units in which nearly 5000 persons are employed. This industry is basically labour- intensive industry but in recent years some units are also using machines for quick and large production. In Madhoghar area there are some Oil Mills. Milk dairies are also working in unorganised way and there is also good production of Ghur in this area.

The government and many NGOs are promoting the herbal plantation in the district as there is great opportunities in this field. Some industries; based on such herbs and plant are also being established. Yet the full utilisation of the available resources of the district Jalaun has not been made.

There is very great opportunity in the field of the agro-based industries. All types of the industries like cottage and small scale industries may be developed in the district.

This step would be helpful in solving the problem of unemployment and ultimately will increase the per capita income of the district and the national income.

We see that in the district agro-based industries are established with low investment of capital . it require larger number of labourers as these industries are labour intensive. In such industries too much skilled labourers are also not required. Agro-based industries in the district had made it possible to provide employment and development in the rural areas. Many labourers living below poverty line, are now getting employment in the agro-based industries. There are more and more opportunities of the employment generation in the district, in the field of agro-based industries.

In short the following factor should exist for the development of agro-based industries:

- Availability of raw material
- Availability of labourers
- Low investment of capital
- Cottage, Small and Medium size of industries possible

Thus we can conclude that the economy of the district is agrarian. The availability of raw material is easily possible which is helpful in promoting such industries as well as in removing the problem of unemployment.

The market for finished products of such agro-based industries is available in the district itself as well as in the neighbouring districts. Also the opportunities of the export of such products exist, but for it we would have to pay attention towards the quality and quantity of the product.

Concluding we find that in the operation area i.e. in the district Jalaun there are so many agro-based products which were found to be very appropriate to the above conditions and thus the following industries have great opportunities to be established :

- Flour mill
- Bakery products industries like biscuits, bread etc.
- Pulses (dall mill)
- Processed Peanuts, Namkins etc.
- Fishing and Canning (finished product of fish)
- Floriculture
- Herbal Plantation and its final products

- Processed fruits and vegetable like tomato and chilly sauce and tomato soup
- Paper products like hand made paper and boxes
- Herbal cosmetic items
- Herbal medicines
- Vegetable products like processed vegetables and its products as Allu chips etc.

**Main Factors Which Are Responsible For Non Creation Of Employment Even
Though There Exist Education:**

- 15 Excess of Population.
- 16 Corruption.
- 17 Wrong system of education.
- 18 Lack of technical education.
- 19 Lack of capital.
- 20 Non desirability of investment.
- 21 Low creation of employment opportunities by the government.
- 22 Low creation of self-employment.
- 23 Lack of employment according to education.
- 24 Non industrialization of agriculture sector.
- 25 Non utilisation of resources.
- 26 Non implementation of projects.
- 27 Complexities in documentation.
- 28 Non utilization of mental creativity.

hypothesis:-

- 1- Agro based industries have led to development of infrastructure and more and more employment in rural areas.
- 2- Agro based industries have generated a sustained growth of development.
- 3- Agro based industries made possible to keep away the problem of unemployment as well as the poverty.

- 4- Through Agro based industries the development of the economy may be made.
- 5- More opportunities of employment have been generated with low investment of capital in Agro based industries.

The assumed hypothesis as mentioned above have been tested on facts and the conclusions which have been found out are as below –

The first hypothesis is that – Agro based industries have led to development of infrastructure and more and more employment in rural areas, we see that in rural areas agro- based industries have failed to develop the infrastructure facilities but have been successful in providing the rural employment. People are getting employment in the rural areas as well as in the towns yet these industries are under developed. District Jalaun exist great opportunities of development of agro-based industries.

The second hypothesis that – Agro based industries have generated a sustained growth of development. It looks very near to the fact, as there is a positive correlation between the employment generation and the economic development. Since agro based industries have provided employment in the district and also these industries have been helpful in increasing the per capita income thereby making it possible to reduce the poverty. Thus these industries have generated a sustained growth of development.

The third hypothesis is that — Agro based industries have made possible to keep away the problem of unemployment as well as poverty; has also been accepted as these industries have generated employment in this area and thus made it possible to reduce the problem of unemployment and poverty.

The fourth hypothesis that— Through Agro- based industries the development of the economy may be made is acceptable in it's original form. As the development of the agro based industries is one of the most important factor of the economic development. The economic development of countries, like India depends upon many indicators as education, employment, energy generation, export creation, technological development etc. The development of the agro based industries increase mostly all above mentioned indicators of development. The agro based industries generate employment in rural as well as in urban areas and the employment generation eliminate

the problem of poverty. Through the development of agro based industries the export of the country increases. Since the economy of India and particularly of District Jalaun is agrarian, bulk of the population is related to villages and agriculture so there is no shortage of labour and other inputs for the agro based industries. This factor indicates that in this area the agro based industries may be more developed . Thus with the help of agro based industries the development of the economy may be made possible.

The fifth hypothesis that— More opportunities of employment have been generated with low investment of capital in agro- based industries is true. Agro based industries are mostly labour intensive. In the district there is scarcity of capital but no shortage of labourers. Agro based industries are possible in cottage and small scale form which are labour intensive. Thus more opportunities of employment have been generated with low investment of capital in agro based industries in comparison to others.

We see that all the above mentioned hypothesis have been accepted except one “that the agro-based industries have led to development of infrastructure facilities”. The tested hypothesis reveal results that with the help of agro- based industries the development of the district is possible. At the same time the agro-based industries also reduce the problem of unemployment and poverty. Keeping in view the availability of physical and natural resources; the agro-based industries have great opportunities to be established in the district. Now we have to take steps towards establishing the agro-based industries.

SUGGESTIONS FOR DEVELOPMENT:-

Suggestion for the development of agro-based industries

Suggestions for the development are divided in to two parts as (a) suggestions for the development of agriculture production and (b) suggestions for the development of agro-based industries.

(A) Suggestions for the development of agriculture production :

1- Improved Seeds should be used : The improved seeds have played an important role in agriculture productivity. Hybrid seeds should be used for increasing production.

2- Balanced Fertilizers should be used : Different types of fertilizers (i.e. Nitrogen, Phosphate and Potash- NPK) should be used in a balanced proportion to maintain the productivity of soil. For, India, the standard ratio for the use of various fertilizers has been assumed to be 4: 2: 1' but during 1999-2000, this ratio was 6.9 : 2.9 : 1 . For 2000-2001, the estimated ratio was 6.4 : 2.7 : 1 . It shows that consumption is biased in favour of nitrogenous fertilizer.

3- Irrigation Arrangement : The main sources of the irrigation in the district are canals. Nearly 70 percent of the area is irrigated by canals. The new system of irrigation as Drip irrigation should also be used. Under Sprinkler/ Drip Irrigation System water is sprinkled evenly on total agriculture ground through a pipe network cropped area. Empirical studies show that this system of drip irrigation saves 30% to 40 % water as compared to irrigation with traditional method, i.e. surface irrigation. This system of irrigation also ensures 20-25 % more productivity per hectare.

The Central Government has taken decision in Union Budget 1996-97 to bear 70% cost of establishing Drip Irrigation System as subsidy. The maximum ceiling of this subsidy has been raised from Rs. 15,000 to Rs 25,000. A special provision of subsidy upto 90% of total cost has been made for marginal farmers, women, 'SC/ST' people.

4- Advanced Agriculture Equipments should be used : The agriculture equipments have great importance in increasing agriculture productivity. The agriculture equipments helps in saving the labour, time and money. There is an arrangement of providing loans subsidy to the farmers for purchasing the equipments by the Central Government. The proper arrangements should be made so that the full benefits of such schemes may be enjoyed by the needy farmers.

5- Soil Conservation And Reclamation : Although positive data are lacking, available tests show clearly that Indian soils have reached the lowest stage of deterioration. While heavy crops are grown year after year, very little is returned to the soil by way of manures. Apart from soil exhaustion and deterioration, there is also the problem of soil erosion. Soil erosion takes place when the surface soil is washed away through excessive rains and floods. Soil erosion occurs because of cutting of trees, removal of vegetation which exposes land to wind and rain, uncontrolled grazing and cultivation on hill slopes.

The remedies to soil erosion are : prevention of forest and afforestation, contour bonding, regulation of land use, etc.

6- The Farming Of Medicinal Plants Should Be Increased : As there are great opportunities in producing the herbal plants. These are used in medicines and cosmetic items etc. Thus the medicine and cosmetic industries are making big demand of these plants like Safed Moosely, Sahajan, Aloe Vera, Aswagandha, Guggul and Henna etc.

7- Proper Assistance should be increased : Assistance should be provided for raising small and large nurseries for production of good quality planting material, upgradation of technical knowledge of farmers through demonstration, training and publicity, rejuvenation of old orchards, area expansion, supply of mini kits for vegetables, improving productivity and training of farmers.

(B) Suggestion for the development of agro-based industries and to enhance exports :

- 1- Provision of soft loans for setting up of grading/ processing centres, auction platforms, ripening/ curing chambers and quality testing equipment.
- 2- providing financial assistance to exporters/ growers / cooperative societies for development of infrastructure facilities such as purchase of specialized transport nits, establishment of pre-cooling / cold storage facilities, integrated post harvest handling systems (pack houses).

- 3- Grant of financial assistance should be provided for improved packaging and strengthening of quality control.
- 4- Grant of Airfreight Subsidy should be provided for exports of selected fresh vegetable and fruits.
- 5- laboratories should be setup for testing of products to ensure quality ; technology transfer, process upgradation and product development.
- 6- Efforts should be made to introduce the advanced technology for the development of agro-based industries so that the entrepreneurs may come to know about the benefits of such technology and they may use such technology. For example in the district peppermint plantation is in good quantity and also many units of extracting peppermint oil are established, but no unit of making peppermint crystals and further processing is established . The main reason of this fact is that entrepreneurs and farmers are not aware of the technology of making peppermint crystals and further processing, though they are capable in all other aspects like money, management and other resources for establishing such units.

Thus the Government should introduce new technology in all fields so that the agro-based industries may be developed.

- 7- Seminars and training programmes should be organised : in the district the main reason of the under-development of agro-based industries is the lack of knowledge and motivation. Great efforts should be made by the Government and other NGOs to train the willing persons for establishing own agro-based industries.
- 8- Market should be reserved for the Cottage and Small scale industries: the Government should try to reserve markets for the products of cottage and small scale industries. As these industries have to face a big competition with the large scale industries, so the cottage and small scale industries find many problems in making their products stable in the market. At the same time cottage and small scale industries can not spend money on advertisement. Thus the Government should reserve the market for such industries.
- 9- The Government should start a programme on district level to train persons in the field of new patent rules and regulations.

As from 1 January 2005 new patent rules and regulations are applicable as per WTO agreements. In India as well as in the district there are many medicines and other

things which are the invention of the India, but due to lack of knowledge and complexities these products and medicines frequently get patented by the other countries. A big example before us is the patent of Neem and Basmati Rice. So for solving the problem the Government should promote to make the persons trained in the field of patent (TRIPS) so that our invented products and medicines may not be patented by the other countries except ourselves.

10- For developing the agro-based industries the Government should give relaxations in Sales Tax , Income Tax and in Excise so that these industries may be developed.

11- Soft loans to agro-based industries by the banks and other financial institutions is the most important factor in the development of agro- based industries, so the loans to these industries should be provided at a minimum rate of interest and also the requirement of the collateral securities should be minimized.

Model Of Development Representing the Whole Picture of Development Of The District Jalaun :

Basically, economic development implies the process of securing levels of productivity in all sectors of economy and this in turn, is a function of the level of technology. For obtaining a higher level of technology, the economy is required to forge the physical apparatus in the form of machines, equipments, tools and instruments of production on the one hand and on the other, to train the labour force of the country to make use of the physical apparatus thus created. In a nutshell, economic development is a process of stepping up the rate of capital formation. But the capital though necessary, is not a sufficient condition of economic development ; which depends on such non-economic factors and efficient governance. Economic development thus depends upon the both economic and non-economic factors.

India is an underdeveloped though a developing economy. Bulk of the population lives in conditions of misery. Poverty is not only acute but also chronic. At the same time, there exists unutilized natural resources. The co-existence of the vicious circle of poverty with the vicious circle of affluence perpetuates misery and foils all attempts at

removal of poverty. It is essential to understand and make efforts for making the major issues of the development in our favour.

There exists some major issues of development in India as :

- 1- Low per capita income and low rate of economic growth.
- 2- High proportion of people below the poverty line.
- 3- Low level of productive efficiency due to inadequate nutrition and malnutrition.
- 4- Imbalance between population size, resources and capital.
- 5- problem of unemployment.
- 6- Instability of out put of agriculture and related sectors.
- 7- Imbalance between heavy industry and wage goods.
- 8- Imbalance in distribution and growing inequalities.

Thus we have to find out how the sustain development of the country may be made. There are many challenges in making the above issues of development in our favour so that the economy may be made developed. In other words :

- We have to increase the per capita income and rate of economic growth.
- We have to remove the mass poverty, as rapid reduction and eventually the elimination of poverty is, therefore, the most important issue of development.

There is clear need for an integrated policy with regard to prices, production and distribution of various food grains coupled with a programme for raising the output of such non-cereals as milk products, poultry, fish, meat, pulses, vegetables and fruits. The highest priority has, however , to be given to raising the output of pulses without necessarily diverting the land from cereal production.

A rising population imposes greater economic burdens and consequently, society has to make a much greater effort to initiate the process of growth. Moreover, with a rising population, per capita availability of land and such other resources fixed in supply, declines. Consequently, society has to make greater efforts to eke out more output per unit of land. Similarly, a significant proportion of capital formation is utilized to provide basic facilities to the additional population at the present level of living. Obviously checking the fast growth of population has a close relationship with economic development.

India is to eliminate unemployment and provide gainful employment to millions of people. The employment strategy of planned development will have to be directed (a) to adopt an employment- intensive sectoral planning, (b) to regulate technological change to protect and enhance employment and (c) promote area planning for full employment. The focus should be to expand employment through labour-absorbing technologies.

The expansion of infrastructure and social services i.e. road construction, rural electrification, water supply, rural schools and community health schemes, besides, irrigation, power and housing programmes will help to generate massive employment through expansion in construction activity and their secondary and tertiary effects in raising agricultural productivity and income of the poor.

We have also to devise a strategy of agricultural development which can promise a steady growth of agricultural output.

For reducing the imbalance between heavy industry and wage goods, we would have to consider two essential things, firstly, the supply of wage goods should grow at a faster rate than that of non-wage goods; and secondly , the price of wage goods should be stabilised.

Now that the economy has been able to build a reasonable industrial base, it is imperative that the imbalance between the heavy industry and wage goods sector be corrected by shifting investment policies in favour of wage goods. This not to say that the country has reached the goal of self-reliance in heavy industry, but to emphasise that simultaneous development of heavy industry and wage goods sector can bring about balanced development of the economy. This path of growth will help to improve the level of living of the masses.

A major issue of the development is to reduce imbalance in distribution and growing inequalities. thus we have to assure continued growth with justice through better distribution of national wealth produced in the country.

MODEL OF DEVELOPMENT OF THE DISTRICT JALAUN

To find out the causes of development it is essential to analyse the factors which are responsible for the development of a country. However the development of a country as well as the development of the district depends upon many factors. As there are four pillars of the bureaucracy, similarly four pillars of the development of the district (as well as the development of the entire economy) are invented. The entire development of the economy is deeply associated with these four factors of the development. We have determined the name of the invented model of development as “E- 4 Development Model”. The all four factors of the development are not only essential but also vital for the economic development in the present economic scenario. There are as below :

- 1 Education
- 2 Employment
- 3 Energy generation
- 4 Export creation

EDUCATION :- When we analyse the required elements of the development we see that the education is the most important element of the development. A Nation can never make the development unless the citizens of that country are educated. .The Education plays an important role in the formation of the nation , similarly as the blood plays role in the body. Today we are in the need of education which may provide the opportunities of employment and also make the persons capable of establishing self businesses and industries. Since now a days great attention is being paid towards promoting education. The technical and vocational educational should be provided so that the youth may find himself appropriate to the challenging nature of the jobs.

EMPLOYMENT :- Although efforts are being made towards increasing the level of employment yet the required level of employment has not been achieved. In fact the number of educated unemployed persons are much more than what is registered in the Employment Office. Thus the unemployed and unutilized man power may be motivated

and trained for self employment, like establishing small, cottage and Agro-based industries.

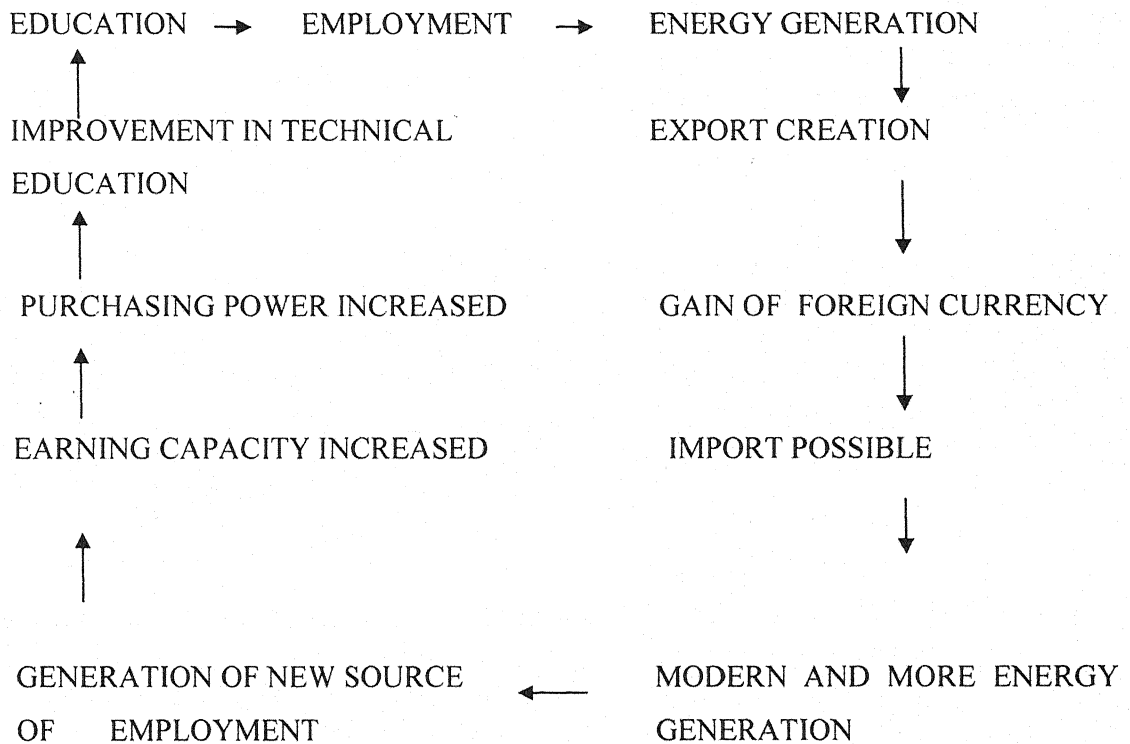
As the employment generation by the Government is very much low. The growth of vacancies in the Government offices is much less than the growth of population. Self employment generation must be promoted so that the problem of unemployment may be solved. As the economy of the District is agrarian, large number of the working population is engaged in agriculture. The marginal productivity of the farmers is very low, some where it is zero and more crucially it is negative too. So the additional working population should be shifted from agriculture to agro—based industries. This step will increase the marginal productivity of the farmer as well as the industrial production of the District.

ENERGY GENERATION :- Here the energy indicates the construction of roads, proper supply of electric, good transportation continuous and clean water supply etc. In short the infrastructure development leads to the development of the entire economy. The object-oriented policy of credit supply is also a part of the energy generation as the proper availability of the money leads to the more capital investment in the economy and it leads to further generation of the employment. When we compare the Indian economy with the other developed economies we see that in the developed countries there exists more infrastructural development than to India. Thus for the sustain development of the economy the energy generation (infrastructural development) is not only essential but also vital.

EXPORT CREATION :- Exports of any country collects foreign currencies for that country. Through exports product specialization is also possible and the comparative cost benefits are also acquired. When we get foreign currency we utilise it for making imports of that goods which are not available in the country. Modern and advanced technologies are also imported which accelerated the industrial development. There are many benefits of the exports. Thus if we want to make our economy developed we would have to pay attention towards promoting the exports and many steps should taken to enhance the export oriented products and the exports of the country.

CIRCULAR FLOW OF THE DEVELOPMENT OF THE ECONOMY

(E- 4 DEVELOPMENT MODEL)



The all four factors of the development as Education, Employment, Energy generation and Export creation have the same meaning as they have in itself in addition to the following :

Education :- Professional, Vocational and Technical education etc.

Employment :- Self establishment of industries including agro-based industries, Ayurvedic industries and the industries based on the herbs and plants etc.

Energy Generation :- Proper transportation, Electric, Pure water, Pollution free environment, Roads facilities and infrastructure development etc.

Export Creation :- Export of both conventional and modern items as Technology, skills, medicines, agricultural products, herbal and plantation based products etc.

Questionnaires

(A) QUESTIONNAIRE REGARDING THE INFORMATIONS OF AGRO-BASED INDUSTRIES

- 1 Name of The Company/ Firm :
- 2 Name of The Candidate :
- 3 Designation :
- 4 Main Product of The Company / Firm :
- 5 Raw Material Used :
- 6 Availability of Present Source :
- 7 Marketing Source (Channels of Distribution)
Direct : Agent : Agencies : Home Delivery :
- 8 Marketing Problems :
 Lack of Agents :
 Quality :
 Price :
 Commission :
9 Employment Generation : No.. of Workers
 Skilled :
 Unskilled :
10 Source of Finance: Amount Rate of Interest
 Proprietors Capital
 Bank: C.C
 T.L
 O.D
 N.B.F.C.
 Others
11 Production Process :
 Assembling
 Manufacturing
 Processing
 Refining
12 Utilisation of Machines

**(B) QUESTIONNAIRE REGARDING THE INFORMATIONS FROM THE
GOVERNMENT INSTITUTIONS**

Name of The Institution:

Head Office :

Branch Office :

Name of The Assisting Candidate :

Designation :

Other Institution :

Government's Scheme To Provide Assistance To -

Agriculture Sector :-

Financial Assistance :

Technical Assistance :

Industrial Sector :-

Financial Assistance :

Technical Assistance :

Institutions Assistance Provided To :-

Agriculture Sector :-

Financial Assistance :

Technical Assistance :

Industrial Sector :-

Financial Assistance :

Technical Assistance :

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